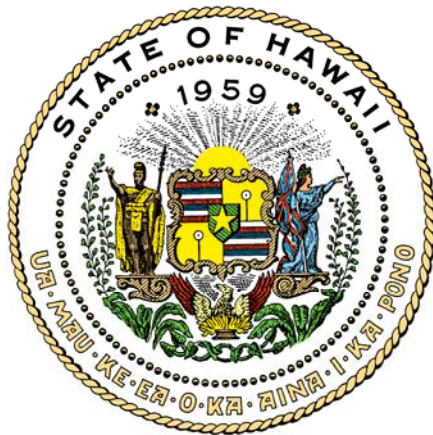


Report to the 2008 Hawaii State Legislature

Lead by Example State of Hawaii Agencies' Energy Initiatives FY 2006-2007



State of Hawaii
Department of Business, Economic Development & Tourism
January 2008

This report and the original agency submissions in fulfillment of Act 96, SLH 2006, Part III and Act 160, Section 168.5, SLH 2006, can be found on the internet at:

<http://www.hawaii.gov/dbedt/info/energy/efficiency/state/lbe>

Hawaii. Dept. of Business, Economic Development and Tourism. Strategic Industries Division.
State of Hawaii agencies' energy initiatives: leading by example, FY 2006-2007. Honolulu: 2007-.

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LEAD BY EXAMPLE REPORT FY 2007

EXECUTIVE SUMMARY

The Lead by Example (LBE) initiative began in 2006 in response to legislative and executive mandates to change the way state executive agencies use energy in operations and facilities. These efforts acknowledge the high cost of electricity in Hawaii, the energy security benefits of alternative fuel use, and the many opportunities for increasing energy efficiency in new and existing state offices, facilities and schools. The legislation also required incorporating environmentally preferable purchasing into state operations.

Fully implemented, the LBE initiative represents an important step in achieving long-term economic and environmental benefits for the state.

State executive agencies consumed slightly more electricity in each of the past two fiscal years, but that electricity has grown significantly more expensive due to the escalating price of oil. Between 2006 and 2007, kWh consumption increased 2.3%, and costs increased 5.3%. The impact of the world oil market is more striking when comparing current figures to those of 2005: state agencies used only 2.7% more electricity in 2007 than in 2005, but that electricity cost 25% more. Hawaii relies on imported petroleum for about 90% of its primary energy.

State of Hawaii agencies made progress in efficiency, renewable energy, transportation, and environmentally preferable practices during 2007. Some highlights follow.

Efficiency

- Four state buildings have received ENERGY STAR® awards, acknowledging that they rank in the top 25% of similar buildings nationwide.
- The Department of Accounting and General Services (DAGS) constructed their first Leadership in Energy and Environmental Design (LEED™) Certified facility, the Waipahu Intermediate School Cafeteria, which the Department of Education (DOE) now operates.
- DAGS has completed preliminary energy audits for a number of its buildings and initiated the retrocommissioning of five buildings: the State Capitol, the Keelikolani Building, and the state office buildings in Lihue, Hilo and Wailuku.
- Numerous buildings have been benchmarked, allowing quick identification of the facilities with the least efficient use of energy.
- DAGS has identified seven additional buildings for the second phase of its retrocommissioning program.
- In 2007, DOE filled the energy coordinator position established by Act 96.

- DOE initiated a share-the-savings pilot project at 15 schools during the second semester of the 2006-07 school year.
- The public library system was fully funded for energy efficiency measures at all 51 of its libraries statewide and is working with DAGS to initiate the improvements promptly.
- The Department of Public Safety received funding for a department-wide energy conservation program and will address energy-efficient window options.
- The Natural Energy Laboratory of Hawaii (NELHA) conducted an audit of its water pumping stations which confirmed that the pumps are operating efficiently. Cold ocean-water air conditioning has been utilized at NELHA for years.
- The Department of Transportation (DOT) Airports Division is considering a similar cold ocean-water air conditioning system for the enclosed areas of Kona International Airport.
- DOT-Airports has made efficiency improvements in taxiway lights and airfield lighted signs at the Honolulu, Hilo and Kalaeloa airports, and replaced the chiller plant at Kahului airport with more efficient equipment.
- Iolani Palace's chiller system will be upgraded by the Department of Land and Natural Resources (DLNR), improving efficiency while preserving the Palace's priceless cultural and historical artifacts.
- Recommendations for efficiency upgrades at the State Capitol include lighting and air conditioning improvements; the latter will also minimize ongoing air quality problems relating to the growth of mold.
- The Department of Business, Economic Development, and Tourism (DBEDT) has helped the Hawaii Public Housing Authority prepare a request for proposals for performance contracting, and has briefed other agencies on how to implement similar contracts.
- Major performance contracts statewide have already saved millions of dollars. DAGS is leading the state's efforts in performance contracting and has formed an inter-agency task force to examine procurement issues.
- A cost/benefit analysis for the proposed College of Education building at the University of Hawaii (UH) indicates that a mix of green building design practices would have a simple payback of 9.2 years.
- Efficiency measures implemented at community colleges include an energy management system for the Honolulu CC's central air conditioning system and clustering night classes at Windward CC to minimize the use of lights and air conditioning. Also, the Sustainable Living Institute of Maui has been established at Maui CC.
- State agencies have received more than \$4 million in efficiency rebates from the Hawaiian Electric Company (HECO), with cumulative dollar savings totaling \$69.4 million.
- State efficiency rebates have thus far saved 354,557 megawatt-hours of electricity; the annual savings is approximately enough to service 6,634 Hawaii homes. Over the life of the efficient equipment, the electricity savings are

expected to grow to 812,010 megawatt-hours, enough to serve over 99,000 homes.

Renewables

- DAGS is considering power purchase agreements for photovoltaic (PV) installations on buildings it manages.
- Eight public schools will receive PV installations during FY07, utilizing \$5 million appropriated by the 2006 Legislature.
- UH-Hilo has already installed 10 kW of photovoltaics on portable buildings, and a 30 kW array for the new science and technology building is out to bid.
- A request for proposal (RFP) is being prepared to solicit PV installations on airports and other facilities managed by DOT, as well as DBEDT's Foreign Trade Zone.
- NELHA is also preparing RFPs for both concentrating solar electric and ocean thermal energy conversion plants at Keahole Point.
- An integrated wind system for an electrical vault is planned for construction by DOT-Airports in 2008.
- Although most state facilities do not use hot water, solar water heating is being promoted where appropriate. DOE plans to install solar water heaters in cooperation with energy savings companies in FY08.
- In 2007, the Public Utilities Commission began consideration of "wheeling" electricity through the utility grid between state facilities.

Transportation

- State vehicles are utilizing E-10 Unleaded gasoline which contains 10% ethanol; state law requires its sale.
- Many state vehicles are also flexible-fuel capable, and could use higher percentages of ethanol if they became available.
- The state offers a pricing preference for biodiesel, and several agencies are prepared to use it.

Purchasing Practices

- Most departments already utilize life-cycle cost analyses, purchase efficient equipment such as those with the ENERGY STAR® label, and take advantage of utility rebates.
- At DOE, procurement officers are developing bid specifications to analyze life cycle costs when purchasing equipment over \$25,000.
- The State Procurement Office (SPO) continues to provide price and vendor listings which include ENERGY STAR®, recycled, or environmentally preferred products.

- For products and supplies not included on the SPO price lists, purchasing agencies are still required to preferentially order recycled products, oil products with greater recycled content, and biofuels.
- DAGS has been working with HECO staff to develop a process to ensure that all DAGS-managed projects on Oahu apply for available rebates.
- DAGS began field testing environmentally friendly custodial cleaning products in FY2006, with the goal of increasing the use of such products by 70%.
- DBEDT began working with a consultant on a green cleaning pilot project for State facilities, with a focus on schools and the university.
- Information on recycled and environmentally preferable products has been prepared by DBEDT and is available to state agencies.

Leadership in Energy and Environmental Design

Hawaii remains a member of the U.S. Green Building Council, the non-profit entity which administers the Leadership in Energy and Environmental Design (LEED) program. To date, the following three state facilities have been certified as meeting LEED standards, and the UH John A. Burns School of Medicine is awaiting confirmation as LEED Certified.

LEED Platinum

- NELHA Hawaii Gateway Energy Center

LEED Certified

- DOE Waipahu Intermediate School Cafeteria
- UH-Hilo Imiloa Astronomy Center of Hawaii

A significant number of additional buildings which are anticipated to meet LEED Silver standards are either being planned or are in the design phase, while the following state facilities are currently under bid or construction and expected to qualify for LEED Silver status.

- UH-Hilo Science and Technology Center
- UH-Hilo Student Life Complex
- UH-Manoa Frear Hall Residence Building

For a full listing of agencies' plans to design and construct buildings and facilities to LEED standards, please see page 20.

LEAD BY EXAMPLE: THE STATE OF HAWAII'S ENERGY INITIATIVE

This report responds to legislative and executive mandates issued in 2006 which require state agencies to implement a variety of energy programs now known as the Lead by Example (LBE) initiative. A number of requirements were established by Act 96, SLH 2006, Part III, which reflects Administrative Directive 06-01, issued by Governor Linda Lingle on January 20, 2006. This law directs state agencies to improve energy, water and resource efficiency in state facilities, increase fuel efficiency, and use alternative fuels in state vehicles.

In addition, Act 160, Section 168.5, SLH 2006, requires agencies to report their electricity consumption, the steps taken to reduce energy use, and their plans for future reductions. Although not mandated by law, the costs of purchasing utility electricity have also been compiled.

This Lead by Example report provides data on electricity use and costs as well as highlights of state agencies' energy activities under the LBE initiative. Executive agencies were invited to submit reports containing information required by the laws; these reports have been consolidated by the Department of Business, Economic Development, and Tourism (DBEDT). The consolidated reports, which are attached, list all agencies' actions under each section of Acts 96 and 160, SLH 2006. The individual reports for both 2006 and 2007 which were submitted by each participating department and attached agency are also available on the DBEDT website (www.hawaii.gov/dbedt/info/energy/efficiency/state/lbe).

The Lead by Example effort was kicked off at a meeting of all cabinet members, convened by DBEDT, on May 11, 2006. During the months since that initial meeting, agencies have focused on changing their operations to implement LBE. They have developed a framework for planning, implementing and reporting energy efficiency activities. State agency personnel have been trained and received technical assistance as needed. The agencies have set energy-savings targets and are developing tools which will enable their goals to be reached. Work continues to establish data baselines.

Agency representatives formed an LBE Leadership Group to coordinate these actions, supported by three Working Groups. These Working Groups address Buildings, Transportation, and Environmental Practices and Procurement. Each Working Group develops plans and recommendations to be reviewed by the Leadership Group, which is composed of high-level representatives of executive departments and the University of Hawaii. The Leadership Group members have the authority to ensure efficient communication and the commitment to develop effective policies and plans for each department.

The LBE Initiative

Fiscal year 2007, the second year of the LBE initiative, saw a wide variety of energy actions on the part of state government. Executive agencies are in the process of certifying a number of energy efficient buildings, using third-party programs such as Leadership in Energy and Environmental Design (LEED) and the U.S. Environmental Protection Agency's ENERGY STAR® rating system. Other buildings are undergoing commissioning and retrocommissioning. Some agencies are pursuing energy performance contracting while others are installing photovoltaic power systems.

Executive agencies continued training their personnel in subjects such as building commissioning, performance contracting, financing, green building design and construction, energy-efficient equipment, and photovoltaics. A total of 89 workshops and other events were held in FY07, attracting at least 3,433 participants, including many from state agencies. In some cases, DBEDT provided funds so that other executive agencies' staff members could attend the training.

Among the challenges of the LBE initiative are consistency in data collection and ensuring both ease and accuracy in recordkeeping. Some agencies already maintain detailed records of monthly electricity bills and fleet fuel consumption, while others are presently organizing methods of routinely acquiring these data. For example, the Department of Education (DOE) has already developed an internal system to comprehensively manage utilities for all schools through a central office. DOE will be able to monitor utility use by individual schools, specifically identifying campuses with higher than anticipated consumption. At the University of Hawaii, hard copies of vehicle records are being converted to computer files in order to facilitate data analysis.

This and future years' LBE reports will cite FY05 data as the baseline for comparison purposes.

Table 1 outlines the targets for the Lead by Example which have been set in response to the legislative and administrative mandates noted above.

This report summarizes the achievements and activities of executive agencies as they "led by example" in 2007. The 25 participating agencies include:

- Department of Accounting and General Services (DAGS)
- Department of Agriculture (DOA)
- Department of the Attorney General (AG)
- Department of Budget and Finance (B&F)
- Department of Business, Economic Development, and Tourism (DBEDT)
- Department of Commerce and Consumer Affairs (DCCA)
- Department of Education (DOE)
- Department of Hawaiian Home Lands (DHHL)
- Department of Health (DOH)

Department of Human Resources Development (DHRD)
 Department of Human Services (DHS)
 Department of Labor and Industrial Relations (DLIR)
 Department of Land and Natural Resources (DLNR)
 Department of Public Safety (PSD)
 Department of Taxation (DOTAX)
 Department of Transportation—Airports Division (DOT-Air)
 Department of Transportation—Harbors Division (DOT-Har)
 Foreign Trade Zone (FTZ)
 Hawaii Community Development Authority (HCDA)
 Hawaii Health Systems Corporation (HHSC)
 Hawaii Housing Finance and Development Corporation (HHFDC)
 Hawaii State Public Library System (HSPLS)
 Hawaii Tourism Authority—Convention Center (HTA/CC)
 Natural Energy Laboratory of Hawaii Authority (NELHA)
 University of Hawaii system (UH)

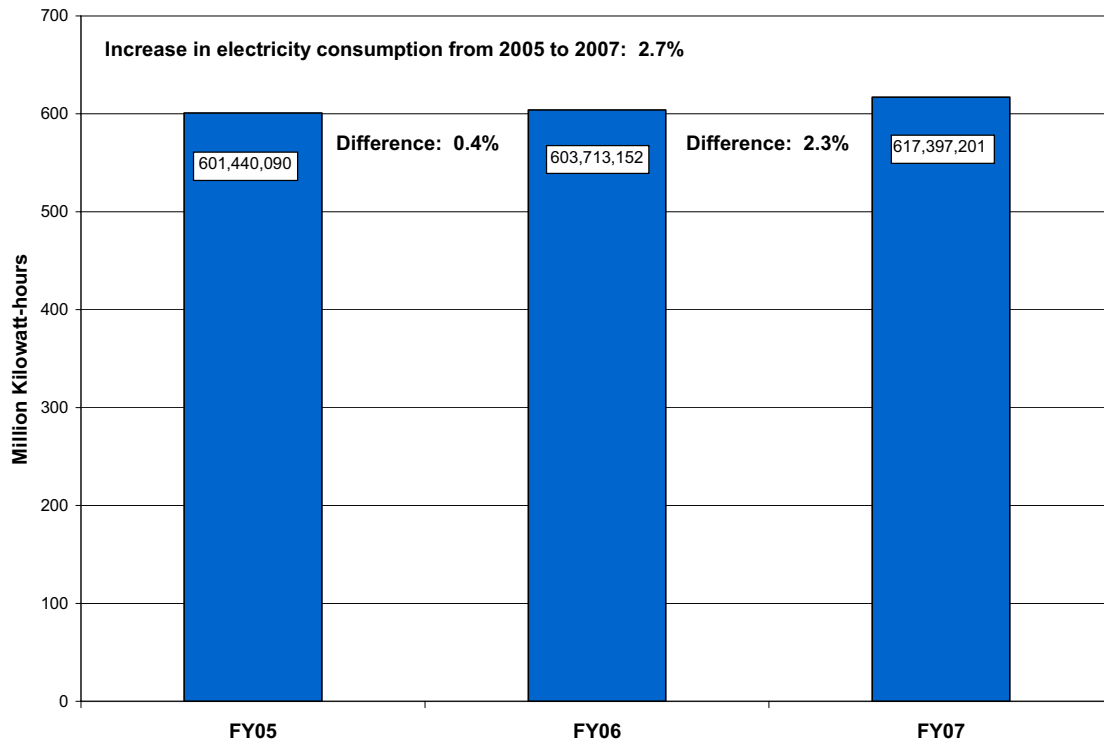
Table 1. Lead by Example Targets (Baseline FY 2005)

Action Item	Impact Short Term 0-3 yrs. (FY08)	Impact Long Term 10 yrs (FY2015)
Provide education programs on energy efficiency	3% reduction in kWh	6% reduction in kWh
R&M/O&M facilities in place as of FY05 (e.g., lighting retrofits, purchasing more efficient equipment)	6% reduction in kWh	20% reduction in kWh
LEED Silver for new construction	30% reduction in kWh for each new building built to LEED Silver	30% reduction in kWh for each new building built to LEED Silver
Increase energy efficiency and fuel diversification of state vehicles as of FY05	5% reduction in petroleum consumption	12% reduction in petroleum consumption
Increase availability of environmentally preferable products to state agencies	3% increase in availability of environmentally preferable products	12% increase in availability of environmentally preferable products
Increase procurement of environmentally preferable products	5% increase in procurement of environmentally preferable products	12% increase in procurement of environmentally preferable products

Executive Agency Electricity Consumption

Electricity use for all reporting State of Hawaii executive agencies is depicted in Figure 1.¹ In 2007, the agencies consumed a total of 617.4 million kilowatt-hours of electricity, compared to 603.7 million kWh in 2006 and 601.4 million kWh in 2005. This represents an increase of 2.3% between 2006 and 2007 and 2.7% between 2005, the baseline year, and 2007.

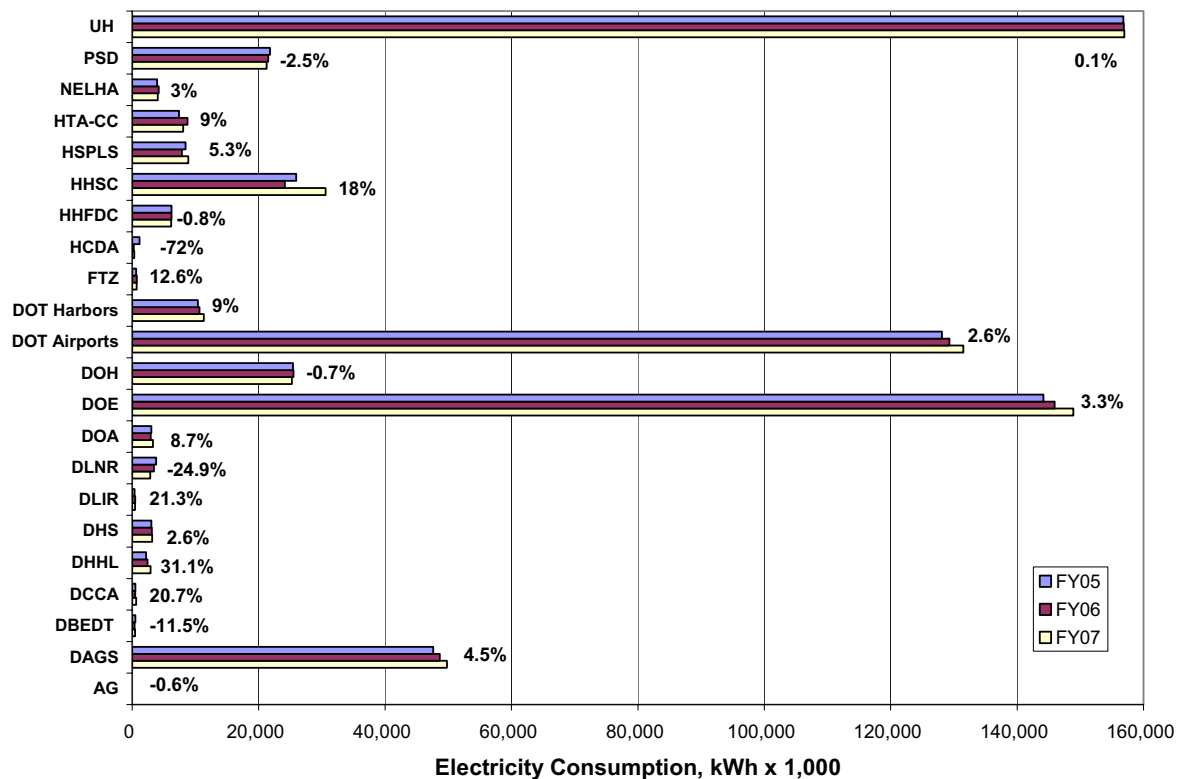
Figure 1. Comparison of Reported State kWh Consumption



Energy use varies widely within individual agencies. Some agencies reported reductions in energy use; others noted minimal increases and a few used significantly more electricity. Each agency's reported kWh consumption is summarized in Figure 2.

¹ The amounts shown do not include several executive agencies which did not report their kWh consumption: the Department of Defense, the Department of Transportation–Highways Division, and the Hawaii Public Housing Authority.

**Figure 2. Comparison of FY05, FY06 & FY07 kWh Consumption, by Agency
Showing Percentage Change from FY05 to FY07**



Many agencies have responsibility for their own electric bills, while others' consumption is aggregated under the Department of Accounting and General Services (DAGS). Four agencies account for most of the electricity used by the executive branch: the University of Hawaii (UH) campuses, the Department of Education (DOE), the Airports Division of the Department of Transportation, and DAGS.

Roughly 80% of the 2,625 buildings owned and operated by the state government are on Oahu.

As shown in Figure 2, the four agencies which consume the most electricity show small increases since 2005. Seven additional agencies were able to decrease their electricity consumption, and two others held their consumption increases at or below 3%. A few agencies showed much greater fluctuations; for instance, the Hawaii Community Development Authority (HCDA) figures reflect major tenant changes each year and DLNR is reporting new accounts. In this report, some departments also provided corrected data for 2005 and 2006.

There were various reasons for increased energy use. Several new school facilities, including two campuses with completely new meters plus new structures and

air conditioning loads connected to existing meters, added to DOE's bills. A new position on Kauai with the Attorney General (AG) increased electricity use; otherwise, the AG's consumption would have declined since 2006.

Bills for the Hawaii State Public Library System (HSPLS) increased in part because of longer operating hours across the state and the addition of new facilities such as the Thelma Parker Memorial Public and School Library, which was transferred from DOE's accounts.

The Department of Transportation's Airports Division (DOT-Air) has added more baggage screening devices at all its major airports. In addition, these devices are now being tied into conveyor belt systems that automate the distribution of cleared baggage to the correct airlines' gates. These in-line baggage screening systems, which are designed to meet U.S. Transportation Security Administration requirements, have made it necessary for DOT-Air to add more electrical capacity.

A 30% increase in cruise ship traffic, which had the concurrent impact of moving cargo and other port activities to nighttime hours, caused a significant jump in the electrical consumption of the Department of Transportation's Harbors Division (DOT-Har). The Department of Agriculture (DOA) experienced a tremendous increase in electricity use at its Waimea Irrigation System after the October 15, 2006 Kiholo earthquake extensively damaged its reservoirs, requiring emergency use of a deep well pump. Other irrigation systems also experienced increased electricity consumption due to staff changes and drought. Utility bills for the Hawaii Health System Corporation (HHSC) increased due to a new 75,000 square foot addition to the Maui Memorial Medical Center and a new emergency room at Samuel Mahelona Memorial Hospital.

It should be noted that several agencies' utility records are consolidated into DAGS' report since they are not separately billed. These include the departments of Budget and Finance (B&F), Human Resource Development (DHRD), Taxation (DOTAX), and some offices within the departments of Business, Economic Development, and Tourism (DBEDT) and Commerce and Consumer Affairs (DCCA).

Tables 2 and 3 provide information on individual agencies' electricity consumption and the changes from year to year since FY05. The reported number of kilowatt-hours consumed annually is provided in Table 2, while Table 3 presents the differences among years in kWh as well as percentage change.

Two agencies, the Department of Labor and Industrial Relations (DLIR) and the Foreign Trade Zone (FTZ) show significant increases in kWh consumption from 2005 to 2007: 21.3% and 12.6%, respectively. These increases were caused by moving to larger facilities in 2006. These two agencies actually decreased their electricity use slightly in 2007 compared to 2006, as shown in Table 3.

Table 2. Utility Electricity Consumption by State Agencies

Agency²	FY05 kWh	FY06 kWh	FY07 kWh
Attorney General (AG)	35,471	34,794	35,266
Accounting & General Services (DAGS) ³	47,633,924	48,653,881	49,779,556
Business, Economic Development & Tourism (DBEDT) Film Office	496,413	335,160	439,289
Commerce & Consumer Affairs (DCCA)	500,695	454,980	604,421
Hawaiian Home Lands (DHHL)	2,213,061	2,418,248	2,902,340
Human Services (DHS)	3,048,045	3,087,144	3,128,267
Labor & Industrial Relations (DLIR)	368,917	457,698	447,627
Land & Natural Resources (DLNR)	3,776,922	3,433,314	2,834,669
Agriculture (DOA)	3,029,525	2,937,939	3,293,112
Education (DOE)	144,176,208	145,947,093	148,892,653
Health (DOH)	25,419,459	25,512,832	25,252,433
Transportation (DOT) Airports Division	128,112,378	129,281,336	131,493,810
Transportation (DOT) Harbors Division	10,374,592	10,656,125	11,311,406
Foreign Trade Zone (FTZ)	614,400	721,280	691,840
Community Development (HCDA)	1,150,027	252,285	322,163
Hawaii Housing Finance & Development Corporation (HHFDC)	6,199,688	6,209,930	6,153,055
Hawaii Health Systems Corp. (HHSC)	25,933,919	24,151,087	30,609,913
Public Library System (HSPLS)	8,445,327	7,857,594	8,890,070
Convention Center (HTA-CC)	7,389,600	8,715,000	8,056,800
Natural Energy Laboratory (NELHA)	3,917,223	4,175,209	4,035,530
Public Safety (PSD)	21,789,073	21,518,595	21,250,952
University of Hawaii (UH)	156,815,223	156,881,628	156,972,029
Totals	<u>601,440,090</u>	<u>603,713,152</u>	<u>617,397,201</u>

² Data were not provided by the Department of Defense, Department of Transportation–Highways Division, or Hawaii Public Housing Authority.

³ DAGS' data include consumption by the Aloha Stadium plus that of agencies occupying buildings operated by DAGS, such as Dept. of Budget & Finance, Dept. of Human Resources Development, Dept. of Taxation, and most locations of Dept. of Business, Economic Development & Tourism and Dept. of Commerce & Consumer Affairs.

Table 3. Differences in Electricity Consumption (kWh) for Reported Years

Agency⁴	FY05- FY06	%	FY06- FY07	%	FY05- FY07	%
Attorney General (AG)	-677	-1.9	472	1.4	-205	-0.6
Accounting & General Services (DAGS) ⁵	1,019,957	2.1	1,125,675	2.3	2,145,632	4.5
Business, Econ. Development & Tourism (DBEDT) Film Off.	-141,253	-28.5	84,129	23.7	-57,124	-11.5
Commerce & Consumer Affairs (DCCA)	-45,715	-9.1	149,441	32.8	103,726	20.7
Hawaiian Home Lands (DHHL)	205,187	9.3	484,092	20.2	689,279	31.1
Human Services (DHS)	39,099	1.3	41,123	1.3	80,222	2.6
Labor & Industrial Rel. (DLIR)	88,781	24.1	-10,071	-2.2	78,710	21.3
Land & Natural Res. (DLNR)	-343,608	-9.1	-598,645	-17.4	-942,253	-24.9
Agriculture (DOA)	-91,586	-3.0	355,173	12.1	263,587	8.7
Education (DOE)	1,770,885	1.2	2,945,560	2.0	4,716,445	3.3
Health (DOH)	93,373	0.4	-260,399	-1.0	-167,026	-0.7
Transportation (DOT) Airports	1,168,958	0.9	2,212,474	1.7	3,381,432	2.6
Transportation (DOT) Harbors	281,533	2.7	655,281	6.1	936,814	9.0
Foreign Trade Zone (FTZ)	106,880	17.4	-29,440	-4.1	77,440	12.6
Community Develop. (HCDA)	-897,742	-78.1	69,878	27.7	-827,864	-72.0
Hawaii Housing Finance & Development Corp. (HHFDC)	10,242	0.2	-56,875	-0.9	-46,633	-0.8
Hawaii Health Systems (HHSC)	-1,782,832	-6.9	6,458,826	26.7	4,675,994	18.0
Public Library System (HSPLS)	-587,733	-7.0	1,032,476	13.1	444,743	5.3
Convention Center (HTA-CC)	1,325,400	17.9	-658,200	-7.6	667,200	9.0
Natural Energy Laboratory of Hawaii Authority (NELHA)	257,986	6.6	-139,679	-3.3	118,307	3.0
Public Safety (PSD)	-270,478	-1.2	-267,643	-1.2	-538,121	-2.5
University of Hawaii (UH)	66,405	0.0	90,401	0.1	156,806	0.1

Electricity Costs by State Agencies

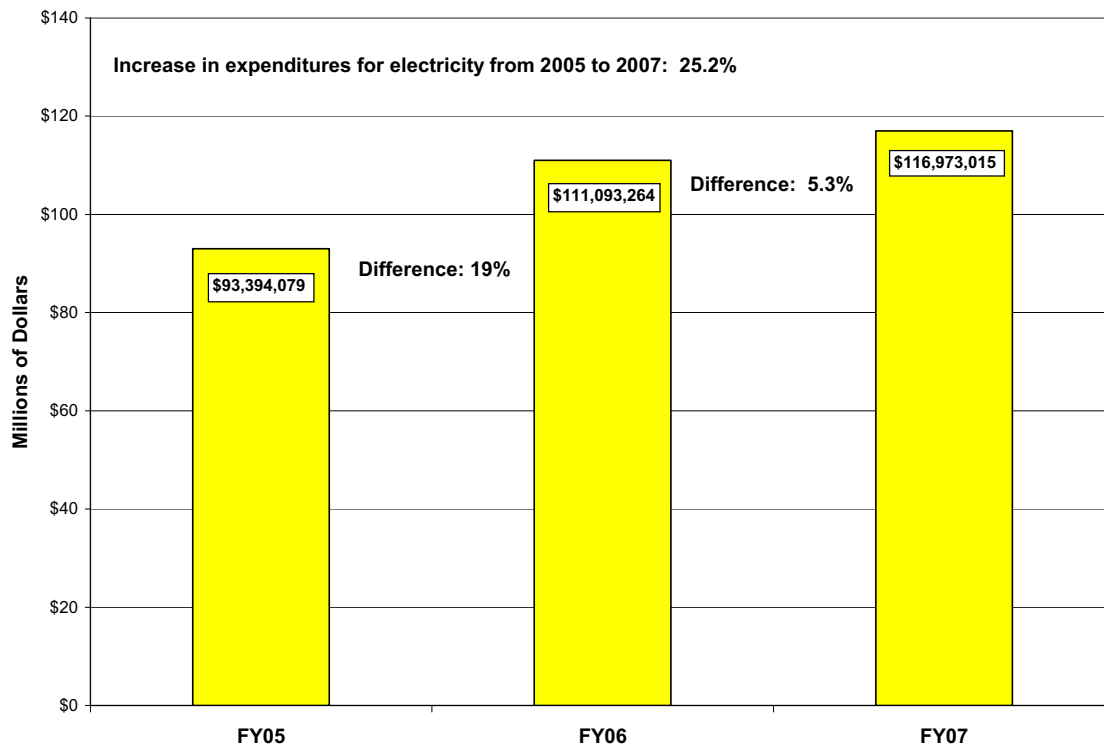
State agencies reporting their electricity use consumed 617,397,201 kWh in fiscal year 2007, a 2.7% increase over 2005. However, this electricity was much more expensive than in previous years due to escalating worldwide oil prices. Electricity purchased from utilities cost \$93,394,079 in 2005 but jumped to

⁴ Data were not provided by the Department of Defense, Department of Transportation–Highways Division, or Hawaii Public Housing Authority.

⁵ DAGS' data include consumption by the Aloha Stadium plus that of agencies occupying buildings operated by DAGS, such as Dept. of Budget & Finance, Dept. of Human Resources Development, Dept. of Taxation, and most locations of Dept. of Business, Economic Development & Tourism and Dept. of Commerce & Consumer Affairs.

\$116,973,015 in 2007, a 25% increase. The totals for the three fiscal years covered by the LBE initiative are given in Figure 3.⁶

Figure 3. Comparison of Reported State Utility Electricity Costs



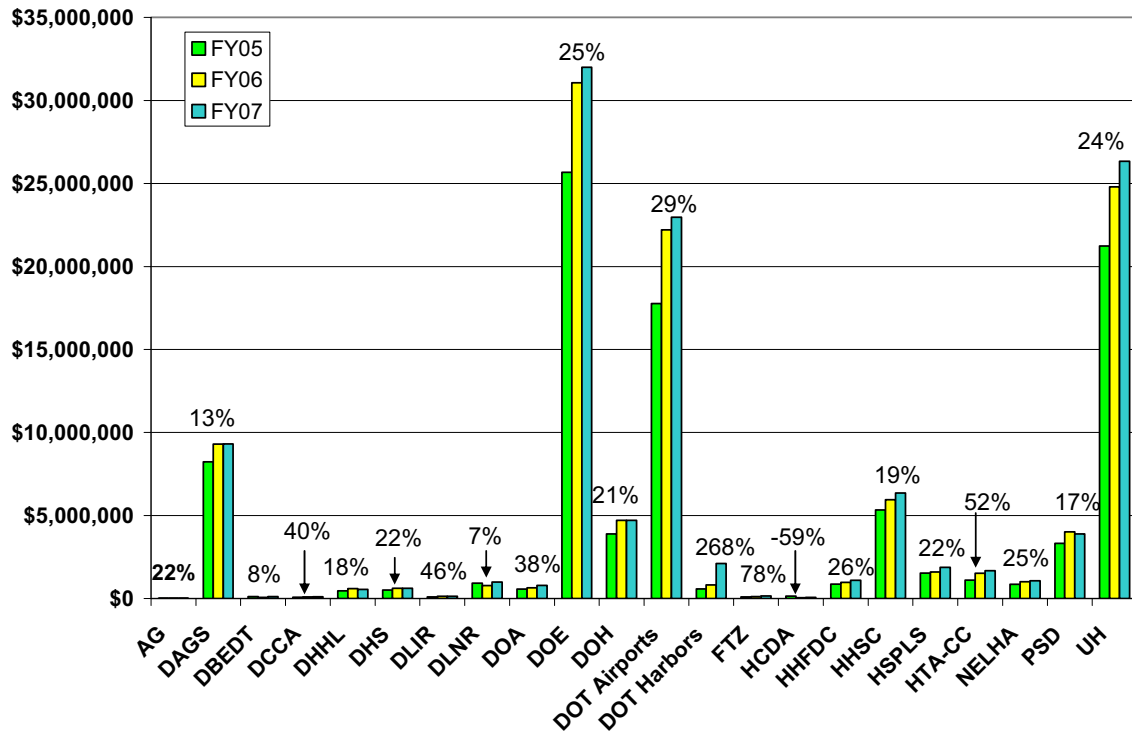
Individual agencies' energy bills reflected the higher oil costs, which translated to significant increases in utility charges per kilowatt-hour. As discussed above, energy consumption by certain agencies rose, but even the departments which were able to decrease total electricity use experienced increased costs. For example, the Department of Public Safety (PSD) was able to decrease its electricity consumption 2.5% between 2005 and 2007, but its costs increased 17%. Likewise, the Department of Health (DOH) reduced its electricity use by 0.7%, but experienced bills which were 21% higher.

Agencies are actively addressing their energy consumption with methods such as retrofitting lights, converting windows, replacing aging air conditioning systems, and assessing the potential for solar water heating.

Electricity costs for each agency are reported by fiscal year in Figure 4.

⁶ Total electricity costs shown in the chart do not include those of several executive agencies which did not submit these data: Department of Defense, Department of Transportation—Highways Division, and Hawaii Public Housing Authority.

**Figure 4. Cost of Purchased Electricity for FY05, FY06 & FY07, by Agency
Showing Percentage Change from FY05 to FY07**



Electricity cost state executive agencies \$17.7 million more in 2006 than in 2005, and the bill rose another \$5.9 million between 2006 and 2007. Electricity expenses were \$23.6 million more in 2007 than in 2005, clearly impacting the state's economy. Lack of control over the vagaries of the world oil market is a major incentive for reducing the use of petroleum-based energy by both improving efficiency and replacing fossil fuels with renewable resources.

Agencies' reported electricity costs for fiscal years 2005, 2006 and 2007 are shown in Table 4. Table 5 lists the differences in dollars paid for utility electricity from year to year, and the percentage change between years.

Table 4. Cost of Purchased Electricity by State Agencies

Agency⁷	FY05	FY06	FY07
Attorney General (AG)	\$10,747	\$11,648	\$13,066
Accounting & General Services (DAGS) ⁸	\$8,234,347	\$9,299,119	\$9,324,000
Business, Economic Development & Tourism (DBEDT) Film Office	\$113,702	\$71,280	\$123,050
Commerce & Consumer Affairs (DCCA)	\$76,812	\$96,583	\$107,424
Hawaiian Home Lands (DHHL)	\$464,665	\$599,422	\$550,247
Human Services (DHS)	\$513,447	\$622,265	\$626,342
Labor & Industrial Relations (DLIR)	\$92,199	\$135,558	\$134,963
Land & Natural Resources (DLNR)	\$920,218	\$781,217	\$988,354
Agriculture (DOA)	\$571,592	\$651,192	\$787,451
Education (DOE)	\$25,669,598	\$31,061,744	\$32,005,173
Health (DOH)	\$3,897,300	\$4,709,723	\$4,707,811
Transportation (DOT) Airports Division	\$17,764,163	\$22,207,907	\$22,957,892
Transportation (DOT) Harbors Division	\$574,858	\$815,110	\$2,115,298
Foreign Trade Zone (FTZ)	\$87,877	\$122,938	\$156,670
Community Development (HCDA)	\$149,278	\$53,436	\$61,014
Hawaii Housing Finance & Development Corporation (HHFDC)	\$870,432	\$978,144	\$1,100,098
Hawaii Health Systems Corp. (HHSC)	\$5,334,695	\$5,946,096	\$6,366,484
Public Library System (HSPLS)	\$1,531,728	\$1,593,157	\$1,869,576
Convention Center (HTA-CC)	\$1,104,125	\$1,521,343	\$1,673,674
Natural Energy Laboratory (NELHA)	\$859,245	\$1,015,794	\$1,071,936
Public Safety (PSD)	\$3,321,225	\$4,006,252	\$3,891,397
University of Hawaii (UH)	\$21,231,826	\$24,793,336	\$26,341,093
Totals	<u>\$93,394,079</u>	<u>\$111,093,264</u>	<u>\$116,973,015</u>

⁷ Data were not provided by the Department of Defense, Department of Transportation–Highways Division, or Hawaii Public Housing Authority.

⁸ DAGS' data include consumption by the Aloha Stadium plus that of agencies occupying buildings operated by DAGS, such as Dept. of Budget & Finance, Dept. of Human Resources Development, Dept. of Taxation, and most locations of Dept. of Business, Economic Development & Tourism and Dept. of Commerce & Consumer Affairs.

Table 5. Differences in Cost of Electricity for Reported Years

Agency⁹	FY05- FY06	%	FY06- FY07	%	FY05- FY07	%
Attorney General (AG)	\$901	8.4	\$1,418	12.2	\$2,319	21.6
Accounting & General Services (DAGS) ¹⁰	\$1,064,772	12.9	\$24,881	0.3	\$1,089,653	13.2
Business, Econ. Development & Tourism (DBEDT) Film Off.	-\$42,422	-37.3	\$51,770	72.6	\$9,348	8.2
Commerce & Consumer Affairs (DCCA)	\$19,771	25.7	\$10,841	11.2	\$30,612	39.9
Hawaiian Home Lands (DHHL)	\$134,757	29.0	-\$49,175	-8.2	\$85,582	18.4
Human Services (DHS)	\$108,818	21.2	\$4,077	0.7	\$112,895	22.0
Labor & Industrial Rel. (DLIR)	\$43,359	47.0	-\$595	-0.4	\$42,764	46.4
Land & Natural Res. (DLNR)	-\$139,001	-15.1	\$207,137	26.5	\$68,136	7.4
Agriculture (DOA)	\$79,600	13.9	\$136,259	20.9	\$215,859	37.8
Education (DOE)	\$5,392,146	21.0	\$943,429	3.0	\$6,335,575	24.7
Health (DOH)	\$812,423	20.8	-\$1,912	0.0	\$810,511	20.8
Transportation (DOT) Airports	\$4,443,744	25.0	\$749,985	3.4	\$5,193,729	29.2
Transportation (DOT) Harbors	\$240,252	41.8	\$1,300,188	159.5	\$1,540,440	268.0
Foreign Trade Zone (FTZ)	\$35,061	39.9	\$33,732	27.4	\$68,793	78.3
Community Develop. (HCDA)	-\$95,842	-64.2	\$7,578	14.2	-\$88,264	-59.1
Hawaii Housing Finance & Development Corp. (HHFDC)	\$107,712	12.4	\$121,954	12.5	\$229,666	26.4
Hawaii Health Systems (HHSC)	\$611,401	11.5	\$420,388	7.1	\$1,031,789	19.3
Public Library System (HSPLS)	\$61,429	4.0	\$276,419	17.4	\$337,848	22.1
Convention Center (HTA-CC)	\$417,218	37.8	\$152,331	10.0	\$569,549	51.6
Natural Energy Laboratory of Hawaii Authority (NELHA)	\$156,549	18.2	\$56,142	5.5	\$212,691	24.8
Public Safety (PSD)	\$685,027	20.6	-\$114,855	-2.9	\$570,172	17.2
University of Hawaii (UH)	\$3,561,510	16.8	\$1,547,757	6.2	\$5,109,267	24.1

Efficiency in Buildings

Hawaii's aggressive approach to energy efficiency helped earn the state a ranking of fourth "greenest" state in the union, according to *Forbes Magazine* (Oct. 17, 2007). The criteria included vehicle miles traveled and the number of alternative fuel and hybrid-electric vehicles per capita, as well as the number of buildings which have received LEED certification.

⁹ Data were not provided by the Department of Defense, Department of Transportation-Highways Division, or Hawaii Public Housing Authority.

¹⁰ DAGS' data include consumption by the Aloha Stadium plus that of agencies occupying buildings operated by DAGS, such as Dept. of Budget & Finance, Dept. of Human Resources Development, Dept. of Taxation, and most locations of Dept. of Business, Economic Development & Tourism and Dept. of Commerce & Consumer Affairs.

In Hawaii, applying energy efficiency to the design, construction and operation of buildings is becoming a standard practice. The State of Hawaii is active in several “green building” initiatives and now requires LEED Silver certification, to the extent possible, for new construction and major renovation. In general, U.S. buildings which are built to LEED Silver standards are about 30% more efficient than conventional buildings, but cost an average of only 2% more to construct. As more experience is gained in green design, the cost premium (usually due to increases in design time) has dropped and is now even zero in some markets. In Hawaii, DAGS’ preliminary estimate is that the cost premium may be somewhat higher than the national average; perhaps as much as 10% to 15% more for total design and construction costs. This premium is expected to drop over time.

In addition to energy savings, LEED Silver standards dictate improved indoor environmental quality, which has been linked to reduced absenteeism, 2-16% increased productivity, 20% better test performance in schools, and 2½ day earlier discharge from hospitals.

LEED is a program of the U.S. Green Building Council (USGBC). DBEDT joined the Council in 2006; its membership on behalf of the State of Hawaii allows all state employees access to USGBC publications and training sessions at a reduced cost, as well as exclusive on-line reports, participation in local USGBC chapter events, and reduced LEED project registration and certification fees. Although certification provides independent, third-party verification of a building’s performance to LEED standards, some agencies are designing facilities to meet LEED criteria but do not plan to formally certify them.

Energy efficiency is maximized if LEED criteria are applied during the planning and design phases of a building. For example, a new College of Education structure is being planned for the U.H.-Manoa campus. A life cycle cost analysis and evaluation of applicable green building design practices for the new building was completed in August 2007. The study concluded that a mix of energy efficiency measures which emphasized space cooling and lighting has the potential to generate \$54,205 in savings with a simple payback of 9.2 years.

Three state agencies now have LEED Accredited Professionals on staff: DBEDT, DOE and DOT. Other employees are in training for this goal.

DBEDT continues to benchmark state buildings, a process which involves calculating the building’s annual energy consumption per square foot. This results in an “energy usage index” (EUI), allowing buildings to be quickly compared. For instance, a benchmarking study of 16 schools on four islands revealed EUIs ranging from 3.6 to 20.1 kWh per square foot. Operating costs can also be indexed. In addition to schools, libraries and public office buildings have been benchmarked.

Benchmarking is one way of evaluating whether buildings are potential candidates for ENERGY STAR® status. ENERGY STAR® is a joint program of the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Energy to

protect the environment and reduce costs through energy efficient products and practices. ENERGY STAR® certified buildings rank in the top quartile of an EPA performance rating system calculated from actual energy use. ENERGY STAR® certified buildings also must qualify for thermal comfort while meeting lighting, ventilation, and indoor air quality requirements. Hawaii gained EPA recognition in 2007 for ranking fifth in the nation in total energy cost savings for ENERGY STAR® buildings, more than \$22 million annually.

Hawaii also has been an active member of EPA's ENERGY STAR® 10% Challenge program since 2005. The program identifies buildings where financially attractive energy efficiency improvements could reduce energy use by 10%, and then implements those changes through low-cost building tune-ups, lighting upgrades, and replacement of old equipment. Another benefit is the reduction of greenhouse gas emissions.

Four state facilities have achieved ENERGY STAR® status. The Kakuhihewa Building (Kapolei State Building) was first certified in 2005 and won recertification in 2006. The other three buildings have been certified for the first time. The Leiopapa A Kamehameha Building, also known as the State Office Tower, and Abner Paki Hale Courthouse in Kaneohe qualified in 2006. The Hilo State Office Building received its ranking in 2007.

To ensure that buildings function as efficiently as possible, commissioning and retrocommissioning processes are being employed. Commissioning is applied to new buildings, while retrocommissioning optimizes an existing building's operation and maintenance.

DAGS has initiated five retrocommissioning pilot projects: State Capitol Building and Keelikolani Building on Oahu, Lihue State Office Building, Hilo State Office Building and Wailuku State Office Building. A second round of retrocommissioning work will address seven additional buildings; preliminary assessments should be underway by summer 2008. The seven facilities in the second phase include: Liliuokalani Building; Kakuhihewa Building; AAFES Building; Kekuanaoa Building; Kalanimoku Building; Leiopapa A Kamehameha Building; and No. 1 Capitol District Building.

DOA has also identified specific retrocommissioning and efficiency projects among its facilities.

The following state buildings either have achieved LEED standards or are in process toward that goal. A number of these projects were already underway before the LBE initiative began.

LEED Platinum

- NELHA Hawaii Gateway Energy Center (completed)
- NELHA Gateway Center office structure (planned)

LEED Gold

- UH Institute of Marine Biology Coconut Island Biology Research Laboratories (design)

LEED Silver

- DOE Ewa Makai Middle School (planned)
- DOE Kapaa Elementary School library (design)
- DOE Lahaina III Elementary School (planned)
- DOE Naalehu Elementary School six-classroom building (design)
- DOE Wailuku Elementary School II (planned)
- DOH Hawaii State Hospital new forensic facility (funds to be requested)
- DOH Kamamalu Building renovations (planned)
- HSPLS Aiea Public Library (planned)
- HSPLS Kohala Public Library (design)
- HSPLS Koloa Public Library (planned)
- HSPLS Manoa Public Library (design)
- HSPLS Nanakuli Public Library (planned)
- PSD Maui Community Correctional Center relocation (planned)
- UH-Hilo Hawaiian Language Building (design)
- UH-Hilo Science and Technology Center (being bid)
- UH-Hilo Student Life Complex (under construction)
- UH-Hilo Student Services Building addition and renovation (funded for design)
- UH-Manoa Campus Center renovation and addition (funded for planning and design)
- UH-Manoa College of Education (planned)
- UH-Manoa Frear Hall Residence Building (under construction; certification pending)
- UH-Manoa Gartley Hall renovation (funded for design)
- UH-Manoa Kennedy Performance Arts Facilities (funded for design)
- UH-Manoa School of Law addition and renovation (funded for planning)
- UH-Manoa new classroom building (funded for planning)
- UH-West Oahu new campus development (design)
- Honolulu Community College Advanced Technology Training Center (funded for design)
- Kapiolani Community College Culinary Institute of the Pacific (design)
- Leeward Community College Social Science and Teacher Education Building (funded for design)
- Maui Community College science facility (funded for design)
- Windward Community College Library and Learning Center (funded for design and construction)

LEED Certified

- DOE Waipahu Intermediate School Cafeteria (completed)
- UH John A. Burns School of Medicine (completed; certification pending)
- UH-Hilo Imiloa Astronomy Center of Hawaii (completed)

In addition, sustainable design criteria similar to those of LEED are being incorporated by DAGS during the design phase of the Kapolei Judiciary Complex, within the constraints of project funding. DBEDT, working with DAGS, is developing guidelines for design and construction which can be applied toward meeting LEED requirements. DAGS is also the state's lead agency for energy performance contracting, a proven method of implementing energy efficiency capital projects without requiring up-front funds.

DOE is designing six facilities to meet LEED Silver standards, but will not pursue formal certification by USGBC due to cost concerns. These facilities are listed below. Hawaii High Performance School Guidelines, which provide guidance for design consultants, will still be used when applicable to achieve LEED requirements in school buildings. DOE will continue to establish internal specifications for meeting LEED Silver requirements.

- Baldwin High School library
- Campbell High School eight-classroom building
- Keaau Middle School eight-classroom building
- Lanai High and Elementary six-classroom building
- Nanakuli High School eight-classroom building
- Pahoa High School gymnasium

Utility Rebates Save Money at State Facilities

Many public agencies have taken advantage of utility-sponsored demand-side-management (DSM) programs offered during the past decade. Under various DSM programs, utilities have provided rebates for both retrofit and new construction in the areas of lighting, motors, and heating/ventilation/air conditioning (HVAC), and also have supported customized approaches.

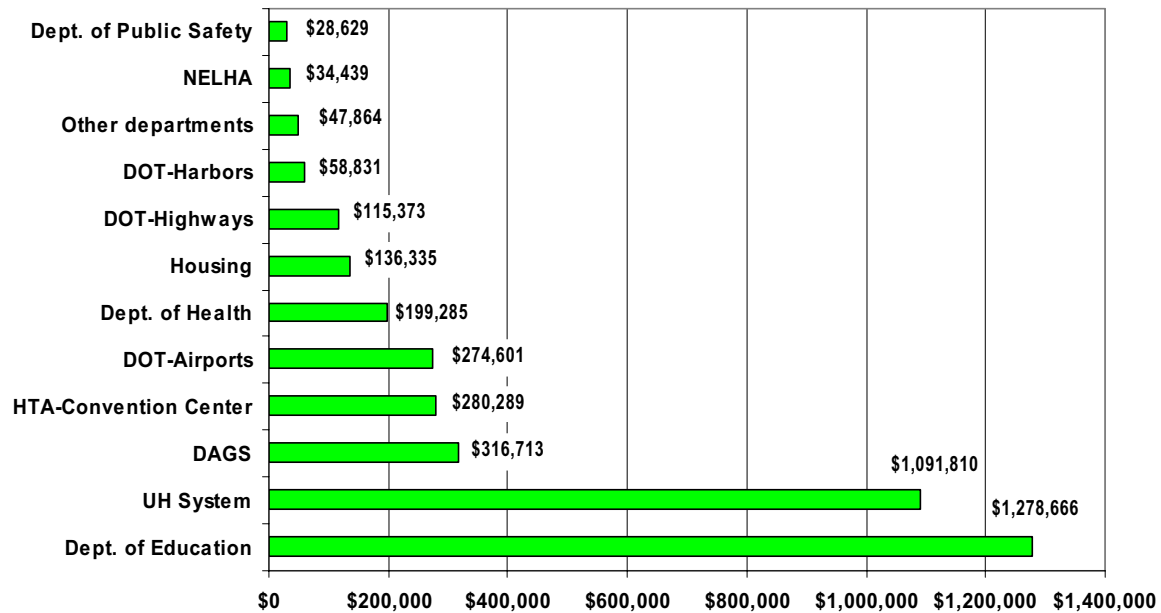
According to figures from Hawaiian Electric Company, Ltd. (HECO), more than \$4 million in rebates have been provided by HECO and its subsidiaries to State of Hawaii agencies¹¹ from 1996 through June 2007. Most of the rebates—\$2.9 million—were provided to agencies on Oahu, with facilities on the island of Hawaii receiving \$526,766 and those in Maui County receiving \$622,636.

¹¹ This includes The Judiciary which, since it is not an executive branch agency, is not discussed in this report. Only 5% of the kW demand and kWh electricity savings accrued by state buildings through DSM rebates are attributable to The Judiciary, which received 4% of the rebate funds from HECO.

Kauai Island Utility Cooperative (KIUC) also provides rebates. Energy assessments have been performed for some state facilities on Kauai, resulting in requests for rebates. KIUC is currently processing three of these requests.

The Department of Education and the University of Hawaii system were the largest beneficiaries, with over \$1 million in rebates each as shown in Figure 5.¹²

Figure 5. Selected State Facilities' DSM Rebates from HECO since 1996, by Agency



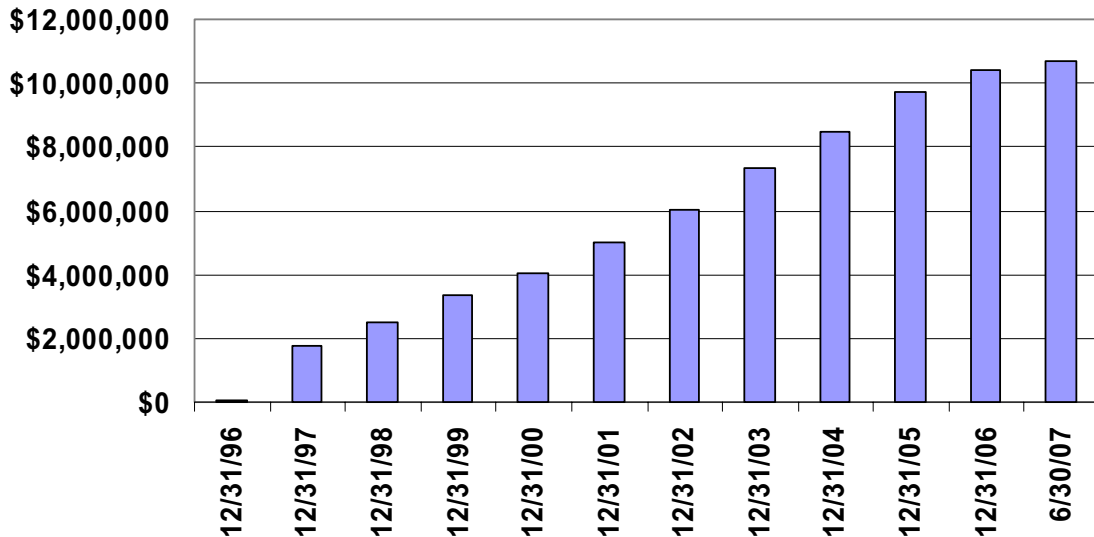
The state agencies which received utility DSM rebates saved the equivalent of \$10.8 million¹³ per year on their electricity bills from 1996 to June 30, 2007. Cumulatively, the agencies have saved \$69.4 million during the same period. The cumulative dollar savings are projected to grow to \$162 million over the life of the efficient equipment. Cost savings as of June 30, 2007 are depicted in Figure 6.¹⁴

¹² These data are for executive agencies only, excluding The Judiciary which received rebates totaling \$165,790 for the same period. The "Housing" rebates were provided to the Housing and Community Development Corporation of Hawaii which was reorganized in 2005 into two agencies, HPHA and HHFDC.

¹³ Equivalent savings are calculated using \$0.20/kWh as the cost for electricity. This is the average cost for facilities on Oahu in late 2007.

¹⁴ These data include cost savings due to utility DSM rebates to all state agencies participating in the rebate programs, including The Judiciary, which is not an executive department.

**Figure 6. Cumulative State Facilities' DSM Rebate Savings (\$)
from HECO since 1996**



The benefits of HECO-supported rebates include 54,134 MWh of energy savings each year, approximately enough electricity to serve 6,634 homes annually. Cumulatively, since 1996, 354,557 MWh have been saved at state facilities. These electricity savings are expected to grow to 812,010 MWh, equivalent to the electricity consumed by 99,551 homes, over the life of the energy-efficient equipment. Total demand savings for the period is 11.7 MW. Cumulative electricity savings due to utility efficiency rebate programs since 1996 are depicted for all state agencies which participated in the programs in Figure 7.¹⁵

Most of the savings, in both MW demand and kWh electricity consumption is from lighting retrofits: 7.2 MW of demand and 33.4 million kWh per year of consumption. Space cooling is a distant second, saving 3.1 MW of demand and 10.3 million kWh annually. Other rebates were provided for custom retrofits, motors and water heating. The annual energy savings due to utility DSM rebate programs for each technology is depicted in Figure 8.

HECO's data show that a typical office building's electricity is primarily used for space conditioning: providing cooling and operating heating, ventilation and air-conditioning (HVAC) fans required 43% of a building's electricity. Lighting was a strong second at 27%. "Plug loads" such as computers, copiers and other equipment were responsible for 17% of the electricity consumed, and water heating was only 0.2%. Miscellaneous uses (e.g. elevators, water coolers) accounted for the remaining 12.8%. These data, shown in Figure 9, indicate some of the most promising targets for energy conservation.

¹⁵ These data include electricity savings due to utility DSM rebates to all state agencies participating in the rebate programs, including The Judiciary, which is not an executive department.

**Figure 7. Cumulative State Facilities' DSM Rebate Savings (kWh)
from HECO since 1996**

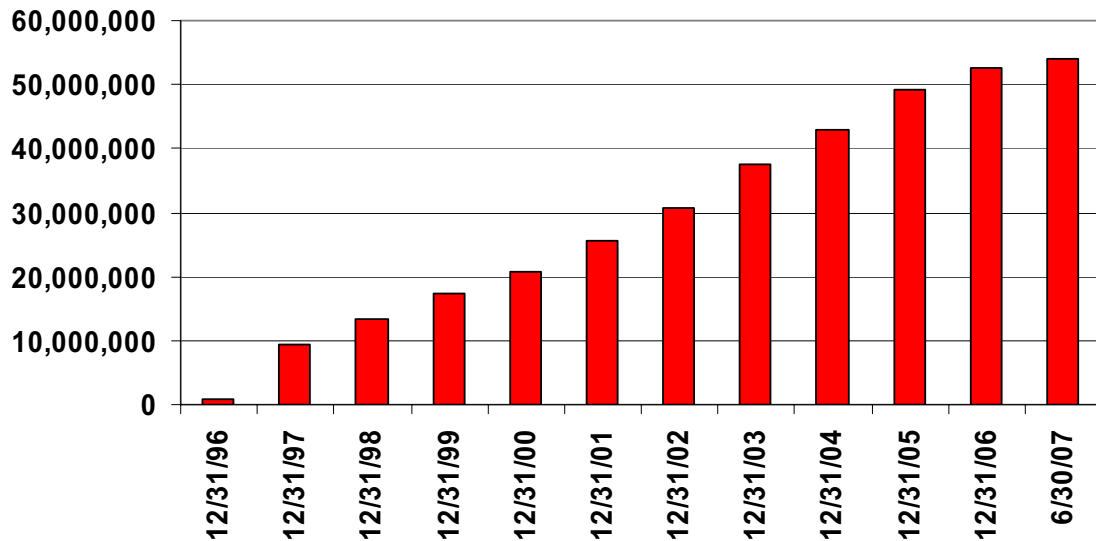
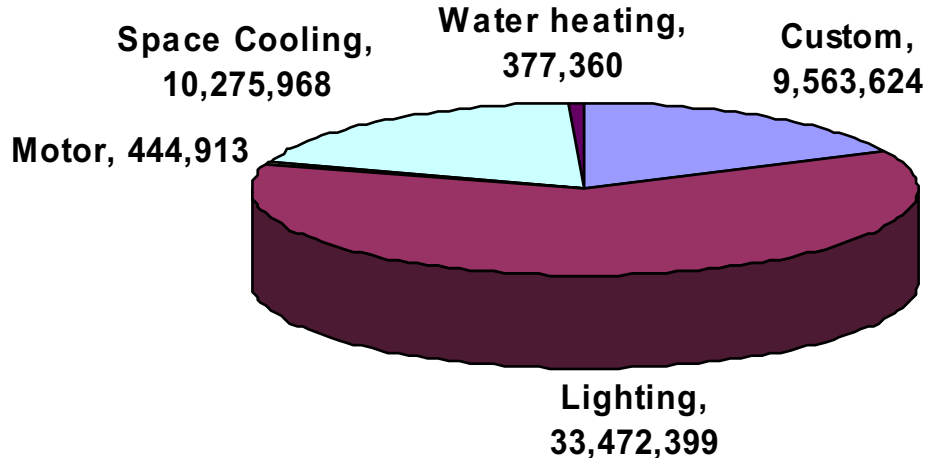


Figure 8. State Facility DSM Rebate Energy Savings (kWh/year) by Technology



When State of Hawaii facilities on Oahu are examined by type, it is evident that campuses consisting of classrooms and offices consume half of the electricity. Office buildings and the Honolulu International Airport respectively consume 17.7% and 17.6% of the total. The public hospital system is also a significant consumer, accounting for 6.3%. These data are shown in Figure 10.

Figure 9. Office Building Energy Breakdown (per HECO data)

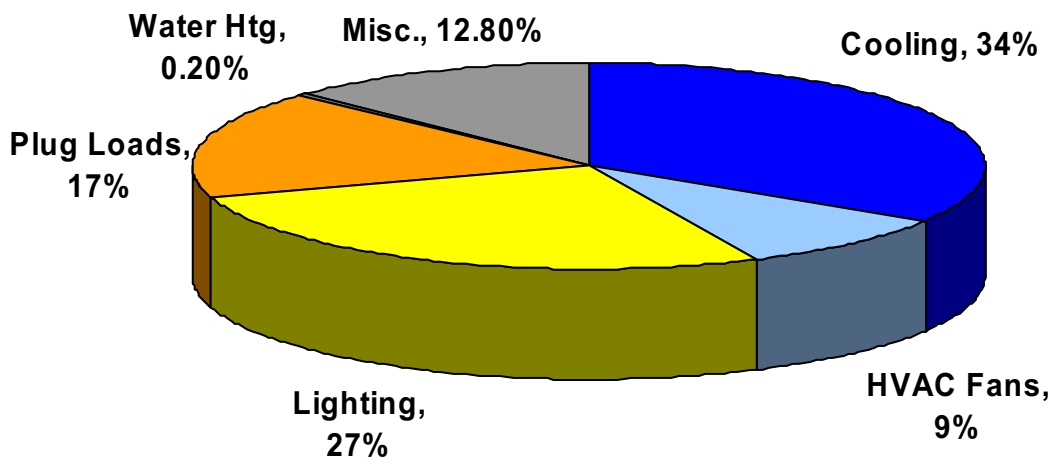
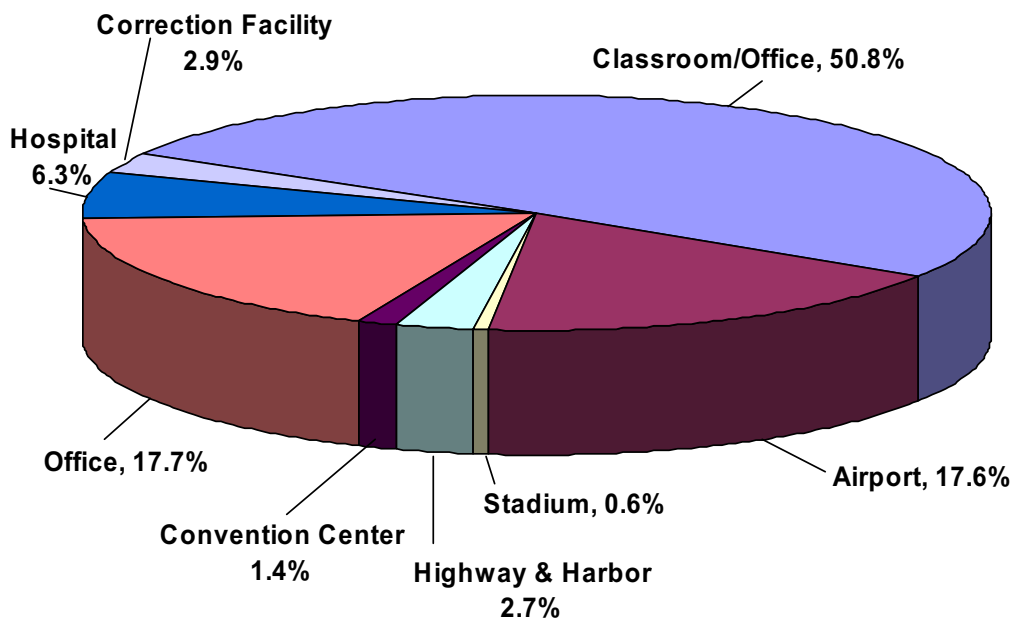


Figure 10. State of Hawaii Facilities on Oahu, Electricity Consumption by Occupancy Type



Highlights of Current State Energy Activities

Since the State of Hawaii established its energy program in 1974, state agencies have undertaken myriad activities focusing on energy efficiency, conservation, and renewable energy. DBEDT's director, the state's Energy Resources Coordinator, is responsible for coordinating energy activities statewide.

These decades of programmatic action have positioned the Administration to rapidly implement the LBE initiative. The state's energy staff and many agencies' efforts have already built a solid foundation, completed some benchmarking and assessments, provided numerous opportunities for training, and executed a number of projects. Some of the recent achievements are described below.

Efficiency

In 2007, DOE filled the energy coordinator position established by Act 96. The department initiated a share-the-savings pilot project at 15 schools during the second semester of the 2006-07 school years. Participating schools received an energy audit and tracked their electrical energy consumption; those which exceed conservation targets will be able to spend a portion of the savings at their discretion.

The public library system was fully funded for energy efficiency measures at all 51 of its libraries statewide and is working with DAGS to initiate the improvements promptly.

PSD also received funding for a department-wide energy conservation program and will address energy-efficient window options.

NELHA conducted an audit of its water pumping stations which confirmed that the pumps are operating efficiently. Most of the electricity consumed at NELHA is for pumping water for tenants; only 7% of the total electricity bill can be attributed to NELHA's administrative functions. Cold ocean-water air conditioning has been utilized at NELHA for years.

The DOT Airports Division is considering a similar cold ocean-water air conditioning system for the enclosed areas of Kona International Airport.

Iolani Palace's chiller system will be upgraded by DLNR, improving efficiency while preserving the priceless cultural and historical artifacts within the monument. DLNR plans to commission the new system to ensure that it performs with optimum efficiency. Presently, several of the air handling units have faulty or undersized reheat coils which have led to over-cooled spaces with inadequate dehumidification. There is also a mismatch of chiller sizing to load. As a result, the chillers cycle on and off, resulting in varied temperatures and humidity throughout the day. The new equipment will address these and other issues.

Energy assessments have been completed at a number of state buildings, including the State Capitol, with recommendations for efficiency upgrades. The Capitol's annual electric bill exceeds \$1 million; 51% of the electricity is used for HVAC and 34% for lighting. A variety of lighting and air conditioning improvements, among other measures, are proposed. The State Capitol is among five retrocommissioning projects undertaken by DAGS.

The HVAC improvements at the State Capitol will also minimize ongoing air quality problems identified by the Department of Health, many of which are associated with the growth of mold. DAGS will be replacing the State Capitol's air handlers, installing CO2 sensors, and installing improved air conditioning controls to rectify the problems which are caused by water intrusion, high humidity and introduced moisture and dust. Until the improvements are initiated, however, occupants have been asked to keep doors between conditioned and unconditioned areas closed and take other steps to reduce condensation and mold.

DBEDT has helped the Hawaii Public Housing Authority prepare a request for proposals for performance contracting, and has briefed other agencies on how to implement similar contracts. The HPHA request for proposals is unique in Hawaii because it involves federal funding and also addresses federal housing requirements.

Major performance contracts statewide have already saved millions of dollars. DAGS is leading the state's efforts in performance contracting and has formed an inter-agency task force to examine procurement issues.

Renewables

Photovoltaics (PV) are likely to be the first renewable energy technology widely adopted by state facilities. DAGS is considering power purchase agreements for PV installations on buildings it manages. Eight public schools will receive PV installations during FY07, utilizing \$5 million appropriated for this purpose by the 2006 Legislature. UH-Hilo has already installed 10 kW of photovoltaics on portable buildings, and a 30 kW array for the new science and technology building is out to bid.

A Request for Proposals (RFP) is being prepared to solicit PV installations on airports statewide. DOT-Airports is leading the project which will include over 4 million square feet of roof space and land for not only Airports, but also properties and facilities managed by DOT-Harbors, DOT-Highways, and DBEDT's Foreign Trade Zone. NELHA is also preparing RFPs for both concentrating solar electric and ocean thermal energy conversion plants at Keahole Point.

An integrated wind system for an electrical vault is planned for construction by DOT-Airports in 2008.

Although most state facilities do not use hot water, solar water heating is being promoted where appropriate—DHHL beneficiaries, for example, are encouraged to take advantage of utility rebates for solar water heaters. DOE has developed solar maps which rank schools based on levels of solar radiation; these rankings will be used to analyze the costs and benefits of solar water heating. DOE plans to install solar water heaters in cooperation with energy savings companies in FY08.

In 2007, the Public Utilities Commission began consideration of "wheeling" electricity through the utility grid between state facilities. Wheeling is not currently

practiced in Hawaii, but if renewable energy could be generated on state facilities—for instance, if wind turbines could be installed on state land—and transmitted to other state facilities, renewable energy could be utilized more fully by state agencies.

Transportation

Not all state agencies have vehicle fleets. Those that do must comply with federal and state regulations relating to the purchase of efficient vehicles, and to purchase the most fuel-efficient vehicles that meet the needs of their programs.

State vehicles are already utilizing E-10 Unleaded gasoline which contains 10% ethanol; state law requires its sale. Many state vehicles are also flexible-fuel capable, and could use higher percentages of ethanol if they became available.

The state already offers a pricing preference for biodiesel, and several agencies are prepared to use it. Currently, supplies of locally produced biodiesel are very limited.

Purchasing Practices

Most departments already utilize life-cycle cost analyses, purchase efficient equipment such as those with the ENERGY STAR® label, and take advantage of utility rebates. In some cases, such as with DOE, procurement officers are developing bid specifications to analyze life cycle costs when purchasing equipment over \$25,000.

The State Procurement Office (SPO) continues to provide price and vendor listings which include ENERGY STAR®, recycled, or environmentally preferred products. For products and supplies not included on the SPO price lists, purchasing agencies are still required to preferentially order recycled products, oil products with greater recycled content, and biofuels.

DAGS already requires the projects which it manages to use highly efficient mechanical equipment. Utility rebates have typically been used to help offset the cost of purchasing and installing energy-efficient equipment. DAGS has been working with HECO staff to develop a process to ensure that all DAGS-managed projects on Oahu apply for available rebates.

DAGS began field testing environmentally friendly custodial cleaning products in FY2006, with the goal of increasing the use of such products by 70%. DAGS plans to integrate Green Seal or equivalent certification into its custodial program and to continue to purchase products with recycled content.

DBEDT began working with a consultant on a green cleaning pilot project for State facilities, with a focus on schools and the university. Part of this project will involve identifying environmentally preferable, yet equally effective, cleaning projects

which can be added to the State Procurement Office list and made available for purchase by all agencies.

Information on recycled and environmentally preferable products (EPP) has been prepared by DBEDT and is available to state agencies. This includes lists of EPP available in Hawaii, a case study of successful EPP efforts, an evaluation of procurement practices, and recommendations for specifications and bid requests to address EPP concerns.

Plans for Future LBE Activities

Continued Efficiency Efforts

Continued improvements in efficiency and the use of renewable energy in state facilities are expected. Building on the solid foundation of assessments, training, benchmarking, energy performance contracts and other activities undertaken in the past several decades, the administration will maintain its focus on modifying agency operations to improve efficiency. Gathering and assessing data, training staff, developing additional reference materials, enhancing interagency communications, identifying needs for additional skills and tools, and setting efficiency targets are all on the LBE agenda.

Need for Adequate Implementation Resources

State agencies are committed to the LBE effort, but future results depend on securing adequate implementation resources. Funds for capital improvements, maintenance, and retrofits must be appropriated for energy efficiency and renewable energy goals to be reached. High-priority projects include lighting, LEED commissioning, improvements such as window tints and energy management controls, and renewable energy installations.

Agency Goals and Plans

As part of the LBE initiative, state agencies have clarified and prioritized their plans for future energy improvements. These plans include new construction as well as retrofits and repairs. LBE Working Groups will be addressing the following tasks:

1) Data Collection:

- Develop a standardized data collection system to establish and refine baselines for various target areas: buildings, transportation, environmental practices and procurement.
- Develop standardized documents/formats for various data requirements.
- Train personnel to use the data tools; collect data for the various target areas.

2) Training and Education Activities:

- Conduct training/education for the various Working Group members (e.g., speakers, selected discussion topics, inter-Working Group meetings to promote information/idea exchanges.)
- Develop an education/promotional campaign for state personnel to implement and practice increased efficiency.
- Continue technical training and education efforts to support LBE.

3) Technical Assistance:

- Development of LEED projects and identifying pilot projects.
- Development of Commissioning and Retrocommissioning Projects.
- Building assessments, including walk-through audits.
- Identify and certify ENERGY STAR state buildings.

4) Evaluation:

- Continue assessment and discussion process to identify future tasks such as development of evaluation criteria, data requirements, and training needs.
- Develop evaluation tools, quantitative and qualitative, such as conducting post-occupancy evaluations (objective and subjective) of LEED Silver Buildings or buildings with selected technology installations for energy efficiency improvements.

5) Policy Review and Recommendations:

- Continue discussion on energy-efficiency-only budget requests to improve the request process and information provided.
- Continue examination of potential policy recommendations from the Leadership Group, Buildings Working Group, Transportation Working Group, and the Environmental Practices and Procurement Working Group.

Individual Agency Responses

A compilation of the responses from most State of Hawaii executive agencies may be found in the following section. Agencies were asked to report on their specific activities relating to Act 96 and Act 160, SLH 2006. The original submissions from each agency are available on the internet at:

<http://www.hawaii.gov/dbedt/info/energy/efficiency/state/lbe>

DBEDT issued invitations to participate in this compiled report to all state executive branch departments, including attached agencies. The Department of Defense, the Department of Transportation's Highways Division, and the Hawaii Public Housing Authority did not respond, nor did they provide statutorily required data. The 25 departments and offices which did respond include:

AG: Department of the Attorney General
 B&F: Department of Budget and Finance
 DAGS: Department of Accounting and General Services
 DBEDT: Department of Business, Economic Development & Tourism
 DCCA: Department of Commerce and Consumer Affairs
 DHHL: Department of Hawaiian Home Lands
 DHRD: Department of Human Resource Development
 DHS: Department of Human Services
 DLIR: Department of Labor and Industrial Relations
 DLNR: Department of Land and Natural Resources
 DOA: Department of Agriculture
 DOE: Department of Education
 DOH: Department of Health
 DOT-Air: Department of Transportation, Airports Division
 DOT-Har: Department of Transportation, Harbors Division
 DOTAX: Department of Taxation
 FTZ: Foreign Trade Zone
 HCDA: Hawaii Community Development Agency
 HHFDC: Hawaii Housing Finance and Development Corporation
 HHSC: Hawaii Health Systems Corporation
 HSPLS: Hawaii State Public Library System
 HTA-CC: Hawaii Tourism Authority, Convention Center
 NELHA: Natural Energy Laboratory of Hawaii Authority
 PSD: Department of Public Safety
 UH: University of Hawaii system

Selected details from specific responses, such as vehicle fleet data, are attached as appendices.

Reporting Requirements
For Each Department/Agency
Reports of Agency Activities Relating to the Statutory Requirements
of Act 96 and Act 160
Fiscal Year '07 (July 1, 2006 to June 30, 2007)

Statutory Requirement

Act 96 SLH 2006: Buildings and Facilities

- (1) Design and construct buildings meeting the Leadership in Energy and Environmental Design silver or two green globes rating system or another comparable state-approved, nationally recognized, and consensus-based guideline, standard, or system, except when the guideline, standard, or system interferes or conflicts with the use of the building or facility as an emergency shelter;

AG: Not applicable. The Department of the Attorney General (AG) does not design or construct buildings.

B&F: Not applicable. B&F does not oversee the design, construction or maintenance of building facilities.

DAGS: During FY2006-2007, DAGS-Public Works Division staff:

1. Participated in a working group facilitated by DBEDT's Strategic Industries Division that reviewed and evaluated the results of the Department of Education (DOE) designated "LEED pilot project" at Waipahu Intermediate School's new cafeteria. The DAGS-Public Works Division (PWD) staff managed the design and bidding phase and the DOE staff managed the construction phase work for project. The project did receive a LEED Certification award (the first DAGS-designed building to receive any type of LEED Certification).
2. Gained experience and learned lessons from the "Waipahu Intermediate School, New Cafeteria" project which made DAGS-PWD staff more familiar with: (A) the LEED certification process and sustainable design criteria; (B) potential impacts on overall project cost (estimated at about 10%) to attain at least a LEED Certification award; and (C) potential challenges in trying to attain LEED Silver Certification awards for all future state projects.
3. Started design phase work for the following DAGS designated "LEED pilot projects": (A) Kamamalu Building, Asbestos Removal and Renovation, DAGS Job No. 12-10-935; (B) Manoa Public Library, Expansion and Site Improvements, DAGS Job No. 12-36-6364; and (C) Kohala Public Library, DAGS Job No. 11-36-6367.
4. Worked with Hawaiian Electric Company (HECO) staff to develop a preliminary "DAGS/HECO process flow" with the objective of increasing the number of DAGS-managed projects on Oahu applying for available HECO rebates on energy efficiency or energy conservation measures. This program will be expanded to the neighbor islands.
5. Initiated approximately \$3,000,000 in projects (using available FY2006-2007 CIP funds) for DAGS Energy Plan work in selected state office buildings on each island. The projects included replacement of existing T-12 lamps with energy efficient electronic ballasts and T-8 lamps. In addition, DAGS designated five "retrocommissioning (RCx) pilot projects" for the State Capitol Building and Keelikolani Building on Oahu, Lihue State Office Building on Kauai, Hilo State Office Building on Hawaii, and Wailuku State Office Building on Maui.
6. Incorporated sustainable design criteria ("LEED like" process) during the design phase of the Kapolei Judiciary Complex within the project funding constraints.
7. Worked with DAGS-Central Services Division (CSD) staff, DBEDT-Strategic Industries Division staff, and DBEDT-funded consultant firms on ENERGY STAR re-certification of the Kakuhihewa Building (aka Kapolei State Office Building) as well as ENERGY STAR certification for the Leiopapa A Kamehameha Building (aka State Office Tower) and the Abner Paki District Court Building (aka Koolaupoko District Court Building). The team also identified and evaluated various sources of reference information for the development of preliminary application guidelines that DAGS staff (and other state agency staff) could use for future projects. These projects include implementation of the LEED certification process under projects involving new state buildings or major renovations, in accordance with Act 96, SLH 2006. This also includes incorporation of commissioning (Cx) requirements that are needed for the LEED certification process and proper coordination of the design phase and construction phase work. Other project include: ENERGY STAR certification processes or assessments and retro-

commissioning (RCx) assessments on state buildings; consideration of “energy saving performance contracts (ESPC)” for state buildings; and consideration of photovoltaic (PV) array installations and “power purchase agreements” for installation of PV arrays on state buildings

8. Advertised for qualified consultant firms interested in doing DAGS-managed projects involving new state buildings or major renovations that incorporate the LEED certification process. Consultants were also sought for DAGS-managed Cx work for projects involving new state buildings or major renovations, and ENERGY STAR certification processes or assessments and RCx assessments on state buildings.
9. Started preliminary discussions with the General Contractors’ Association (GCA) on proposed changes to the typical DAGS design specifications for construction waste recycling requirements and posted a draft “Construction Waste Management Guide Specification (CWMGS)” on the DAGS website.

The DAGS interim strategy is to implement the DAGS-designated “LEED pilot projects” in accordance with Act 96, SLH 2006, and to pursue annual ENERGY STAR certifications or re-certifications for existing state office buildings.

The DAGS mid- and long-range strategy is to (subject to appropriation of adequate CIP funding):

1. Develop application guidelines that will address all of the Act 96, SLH 2006 requirements. As DAGS staff gain more experience from the implementation of “LEED pilot projects,” the knowledge gained can be included in the application guidelines. This includes development of state building monitoring and control guidelines.
2. Complete RCx assessments for all DAGS managed state office buildings.
3. Complete all work items identified by ENERGY STAR assessments or RCx assessments (including adjustment, repair and replacement of building system components and building renovations to address changed operations) that are needed to attain “optimum operations (in accordance with the LEED certification process and sustainable design criteria)” in all DAGS-managed state office buildings.
4. Install building monitoring and control devices that are needed to maintain “optimum operations (in accordance with the LEED certification process and sustainable design criteria)” in all DAGS-managed state office buildings.
5. Perform routine maintenance, minor repair, scheduled replacement and renovation work (based on subsequent changes in the building operations) that are needed to maintain “optimum operations (in accordance with the LEED certification process and sustainable design criteria)” in all DAGS-managed state office buildings.

While Act 96, SLH 2006, mandates that state projects should attain LEED Silver Certification award or two green globes rating (or comparable), it also says “to the extent possible.” DAGS’ application of this phase will be to pursue LEED Silver Certification provided funding is available or can be obtained while meeting original design specifications or applying value engineering to modify design specifications to accommodate the LEED Silver Certification in the design specifications.

DBEDT: Most of DBEDT’s energy-related work is supported by Federal funds, often the result of winning nationwide competitive grant solicitations. DBEDT also has a Memorandum of Understanding with the Department of Health to support Green Building on Brownfields EcoCharrettes. Funding from the US EPA through the Department of Health this FY has supported a sustainable design workshop and plan for a Native Hawaiian Charter School in Haiku Valley, Ke Kula o Samuel Kamakau. This process and plan will enable the school, which is located on a brownfields site, to approach potential funders to support the development of this green campus. The LEED Checklist was used during the workshop to assess the plan and elements for inclusion in design considerations.

On behalf of the State of Hawaii, DBEDT renewed its membership with the U.S. Green Building Council (USGBC) in 2007. USGBC administers the Leadership in Energy and Environmental Design (LEED) rating system. DBEDT continues to co-sponsor many LEED training sessions and continues to serve on the USGBC Hawaii Provisional Chapter. There are now more State of Hawaii LEED projects completed, under construction and consideration. This fiscal year, DOT and DOE have joined DBEDT in having LEED-accredited professionals on staff. DBEDT has helped coordinate three LEED Study Sessions to prepare additional State personnel and others to take the USGBC examination and become LEED accredited professionals.

Through State of Hawaii General Funds, DBEDT has a Letter of Agreement with the State of Washington to provide technical assistance to State of Hawaii agencies. Through this agreement, training and sample documents on implementing LEED projects were provided by Washington State to State of Hawaii program and project managers. Washington State also presented at a Consulting Engineers Council of Hawaii Conference in February 2006 and conducted an EcoCharrette for Manoa Library in March 2006. Washington State will also assist State of Hawaii agencies with an Implementation Guide for Project Managers on LEED

Projects.

An agreement and contract with Green Building Services, Inc. (GBS) were executed this fiscal year to provide State of Hawaii agencies with additional green building-related technical assistance. GBS led an EcoCharrette for the UH College of Education Complex in December 2006. This project would target LEED Silver, but could potentially achieve LEED Gold level according to the report summarizing the EcoCharrette process and goals. An evaluation of green building design practices for the complex was completed in August 2007. The life cycle cost analysis concluded that a mix of energy efficiency measures which emphasized space cooling and lighting has the potential to generate \$54,205 in savings (present value) with a simple payback of 9.2 years.

Through the Lead By Example Leadership Working Group, DBEDT facilitated discussion of agency prioritization of building projects based on criteria including greatest potential for energy efficiency and LEED designation. While preparing budget submittals for FY 07-09, the Leadership Group prioritized energy-efficiency-only projects to be funded by CIP or operating funds. The ranking was based on a sense of high return on investment and visibility value. The Leadership Group focused on selected energy-efficiency-only projects, as determined by each agency. Agencies also separately submitted "health and safety" budget requests which include energy efficiency measures, including requests to design and build to LEED standards.

Additionally, SID staff attended State Building Code Committee meetings chaired by Russ Saito of DAGS to report to the committee the difference between ASHRAE 90.1-2004 and LEED standards. Staff explained why state buildings should adhere to the higher LEED standards. Staff also met with Kraig Stevenson, Director, the International Codes Commission, to ascertain that the ICC's initiative to unify the building codes of all of Hawaii's counties shall exclude energy standards, with each county remaining in charge if its energy code and the state remaining in charge of energy standards for state buildings.

(Related workshops and seminars are reported in the Act 160 section.)

DCCA: Not applicable. DCCA has no current plans to construct or renovate any buildings.

DHHL: DHHL will continue to encourage its Land Development Division to design and plan all future housing projects to meet LEED Silver or two green globes rating. The department will continue to encourage its Land Management Division to require all new general lessees and licenses to plan and design their commercial projects to meet the same requirements. All potential lessees are instructed to consider energy efficiency.

DHRD: Not applicable. The department does not design or construct buildings.

DHS: The Department of Human Services will continue to coordinate all building and facility projects with the Department of Accounting and General Services to ensure that all construction, and repairs and alterations projects are in compliance with the applicable standards and guidelines.

DLIR: The Department of Labor and Industrial Relations (DLIR) does not own or manage any buildings. The majority of DLIR personnel are housed in building facilities constructed and managed by the Department of Accounting and General Services (DAGS). The remaining DLIR personnel are out-stationed in privately owned buildings. The DAGS Leasing Branch secures all rental lease agreements for DLIR occupants housed in privately owned buildings. In addition, DLIR does not have any plans to design or construct new buildings or facilities at this time. DLIR will continue to learn about energy efficiency and environmental designs. As DLIR staff gains more knowledge in energy efficiency and environmental designs, appropriate steps will be taken to incorporate these standards into our DLIR standards. DLIR will work with the appropriate DAGS agencies to incorporate energy efficiency measures to reduce energy consumption.

DLNR: DLNR continues to work with the Department of Business, Economic Development, and Tourism (DBEDT) in a statewide collaboration on energy efficiency, as a member of DBEDT's Lead by Example Leadership Group. DLNR will continue to work with the Leadership Group on ideas to implement energy savings across the state. As department staff learns more about such initiatives, they will incorporate such guidelines into DLNR standards.

DLNR's facility portfolio is limited. Most of buildings owned by DLNR are composed of base yards, harbor facilities and park restrooms. DLNR incorporates energy saving concepts into all of its owned facilities as appropriate. Energy saving concepts includes the use of solar water heaters, natural ventilation and lighting, and use of energy efficient lights. Additionally, DLNR has begun to incorporate energy savings practices into design projects such as recycling existing asphalt and concrete pavement into backfill material.

DLNR evaluates the feasibility of implementing energy conservation measures when capital improvement projects are designed. As DLNR staff learns more about energy efficiency and environmental design, they will incorporate these concepts into building and facility design and renovations.

DOA: This requirement is not applicable to the Department of Agriculture (DOA) since the department utilizes the engineering services of the Public Works Division of the Department of Accounting and General Services and follows their guidelines and standards for designing and constructing buildings.

DOE: Department of Education (DOE) achievements since July 2005 include:

- Successful motion-activated classroom light sensors pilot at Lincoln Elementary School. Determining feasibility and technical challenges of rolling out to all schools.
- Replaced light fixtures with more energy-efficient fixtures when renovating classrooms.
- Received LEED Silver award for Waipahu Intermediate School cafeteria.
- Initiated share-the-savings electricity pilot project at 15 schools during 2nd semester of SY 06-07.

The Department's near term plans (FY 2007-08 through 2009-10) encompass the following activities:

- Design all new buildings to LEED Silver standards.
- Install photovoltaic systems on approximately eight schools in FY 07-08 with \$5 million appropriated by 2006 Legislature.
- Replace all failed incandescent light bulbs with Compact Fluorescent Light bulbs beginning 7/1/07 where feasible.
- Convert all vinyl jalousie classroom windows to tinted glass awning-type fixtures for the final \$60 million of classroom renovations.
- Use solar heaters when it's time to replace gas or electric water heaters, where feasible.
- Conduct a life-cycle cost analysis into the use of ice storage for new and replacement air conditioning systems, where feasible.
- Retrofit school support facilities (administrative offices, libraries, locker rooms, auditoriums, gyms, etc.) with energy efficient lighting.
- Purchase ENERGY STAR appliances and equipment for new facilities.
- Use energy efficient air conditioning and refrigeration motors.

As a result of Act 96, the DOE's approach toward design and construction incorporates the following:

- All new or substantially renovated Department of Education (DOE) buildings include requirements for LEED and/or another comparable state approved, nationally recognized, and consensus based guideline, standard, or system.
- Where appropriate, design estimates for new or substantially renovated facilities will include a separate line item cost for project documentation and commissioning requirements to meet LEED Silver or Two Green Globe ratings.
- Continuous meeting with architects, engineers, contractors, and vendors to discuss best business practices with the DOE to meet LEED requirements and energy conservation measures.

The following new schools are planned to achieve a LEED Silver rating: Ewa Makai Middle, Lahaina III Elementary, and Wailuku Elementary II.

Achieving LEED Silver rating via documentation with USBGC is planned for existing school facilities at: Naalehu Elementary's six-classroom building and Kapaa Elementary's library.

The following six facilities will be designed to meet LEED Silver level of ratings but will not be formally certified by USBGC as LEED Silver due to cost constraints: Baldwin High School – library; Lanai High and Elementary – six-classroom building; Keaau Middle School – eight-classroom building; Pahoa HS – gymnasium; Nanakuli High School – eight-classroom building; and Campbell High School – eight-classroom building.

Hawaii High Performance School Guidelines (HHPSG), which provides direction/guidance for our design consultants, will still be used when applicable to achieve LEED requirements. DOE will continue to establish internal guidelines, standards, and specifications for meeting LEED Silver requirements for DOE facilities.

DOH: The Department of Accounting and General Services handles all capital improvement projects for the Department of Health. DOH coordinates its own small projects such as office renovations and minor improvements costing less than \$50,000. The Department of Health will be moving into the renovated Kamamalu Building within the next few years. DAGS has contracted with AM Partners, Inc. to design the renovation. They will be designing the building to qualify for a LEED Silver Certification. The Department is requesting funds in this supplemental budget (08-09) for the design of a new Forensic Facility at the Hawaii State Hospital. If money is appropriated, the architects will be instructed to design to qualify for LEED Certification.

DOT-Airports: The Department of Transportation (DOT) Airports Division has been designing and constructing buildings and facilities with energy efficient technology for over 10 years. The Honolulu International Airport Modernization Program has incorporated sustainability goals and LEED guidelines for its projects. The new maintenance projects will implement commissioning and apply energy saving designs throughout the system.

- DOT-Airports Division is committed to design and construct buildings and facilities with energy-efficient technology and to meet the LEED standard for the Airport System.
- DOT-Harbors: Steps taken include: training staff on LEED methodology; requiring design consultants and construction contractors to be knowledgeable of and able to comply with Act 96 SLH 2006; ensuring that all designs for new construction meet LEED Silver certification; and developing program milestones to encourage 100% implementation over a period of time.
- DOTAX: Department of Taxation (DOTAX) buildings are constructed and managed by the Department of Accounting and General Services (DAGS).
- FTZ: Not applicable. FTZ does not design or construct buildings.
- HCDA: Not applicable. HCDA does not have plans to construct any buildings.
- HHFDC: Hawaii Housing Finance and Development Corporation (HHFDC) has incorporated by reference in its solicitations for Request For Proposals for affordable housing projects, the requirements of Act 96, Session Laws of Hawaii 2006 and the Governor's Directive No. 06-01, dated January 20, 2006, which requires the following to the extent possible: design buildings for LEED certifications; incorporate energy efficiency measures into residential structures of one to three stories to minimize heat gain and cool air loss; incorporate design features to conserve energy and water; implement water and energy efficiency practices in operations to reduce waste and increase conservation; incorporate principles of waste minimization and pollution prevention; use life cycle cost-benefit analysis to purchase energy-efficient equipment; and procure environmentally preferable products.
- HHSC: For all new construction, Hawaii Health Systems Corporation (HHSC) will assess the cost of LEED building criteria. If the cost for LEED design exceeds the budget of the project, then the project will incorporate as many energy conservation measures as are possible to achieve within the budget. For long range planning, the corporation will try to include LEED design costs whenever possible.
- HSPLS: HSPLS is working with DAGS on the design and construction of the new Kohala and Manoa Public Libraries. Design for both to LEED Silver rating is almost complete. HSPLS has started planning new libraries in Nanakuli, Koloa, and Aiea to also meet LEED Silver standards.
- HTA-CC: Not applicable. The Hawaii Tourism Authority (HTA) has no plans to design or construct any buildings at this time.
- NELHA: NELHA is home to one of only eight LEED Platinum-rated buildings in the world, the Hawaii Gateway Energy Center. This building has been the recipient of numerous international and national awards. Study groups from around the world are visiting it to gain knowledge and understanding of how they can implement green technologies as exemplified by this building into their designs. As yet, no Hawaii groups have come to see or visit for the same purpose except for a few very small ones led by the original architects. NELHA has not built any buildings since Gateway. NELHA is in continuing discussions with private investors to build a LEED Platinum office structure at the Gateway.
- PSD: In collaboration with the Department of Accounting and General Services (DAGS) Division of Public Works, the Department of Public Safety (PSD) directed the consulting architects and engineers selected for the Maui Community Correctional Center (MCCC) Relocation to Puunene project (DAGS Job No. 15-27-5562) to prepare construction bidding documents based upon Leadership in Energy and Environmental Design (LEED) Silver or better. Consultants selected have advised PSD and DAGS that members of their staff who are LEED-Certified will be assigned in various capacities to this project.
- UH: System wide, the University of Hawai'i will continue to apply the LEED rating system to all Capital Improvement Program new and major renovation projects. Sustainability guidelines are being included in all campus long-range development plans and project development reports. In general, the goal is for LEED Silver certification; if the goal cannot be attained due to budget constraints, other sustainable design principles will be incorporated into the new or major renovation projects. Thus far, the following LEED projects have been undertaken:
- UH Manoa – School of Medicine has been designed and constructed; LEED Certification is pending U.S. Green Building Council (USGBC) approval.
 - UH Manoa – Frear Resident Housing is currently under construction and registered as a LEED project with the USGBC with the goal of LEED Silver certification.
 - UH Manoa – Coconut Island Biology Research Laboratories are currently under design and registered as a LEED project with the USGBC with the goal of LEED Gold certification.
 - UH Manoa – Kennedy Performance Arts Facilities have been funded for design with the goal of LEED Silver certification.
 - UH Manoa – College of Education/Laboratory School Building has not yet been funded, but preliminary planning has been completed with a goal of LEED Silver certification.

- UH Manoa – Campus Center Renovation and Addition has been funded for planning and design with the goal of LEED Silver certification.
- UH Manoa – School of Law addition and renovation has been funded for planning with the goal of LEED Silver certification.
- UH Manoa – Gartley Hall Renovation has been funded for design with the goal of LEED Silver certification.
- UH Manoa – New Classroom Building has been funded for planning with the goal of LEED Silver certification.
- UH Manoa – Long Range Development Plan Update is currently under planning with an emphasis on sustainability.
- UH West Oahu – New campus development in Kapolei is currently under design and registered as a LEED project with the USGBC with the goal of LEED Silver certification.
- UH Hilo – Student Life Center complex is currently under construction and registered as a LEED project with the USGBC for LEED Silver certification.
- UH Hilo – Hawaiian Language Building is currently under design with the goal of LEED Silver certification.
- UH Hilo – Mauna Kea Astronomy Education Center has been designed and constructed; it was awarded a LEED Certified rating.
- UH Hilo – Science and Technology Center is being bid with the goal of LEED Silver rating.
- UH Hilo – Student Services Building Addition and Renovation has been funded for design with the goal of LEED Silver certification.
- Maui CC – Science Facility has been funded for design with the goal of LEED Silver certification.
- Kapiolani CC – Culinary Institute of the Pacific facilities at the former Cannon Club site along Diamond Head are currently under design with the goal of LEED Silver certification.
- Leeward CC – Social Science and Teacher Education building has been funded for design with the goal of LEED Silver certification.
- Windward CC – Library and Learning Center facility has been funded for design and construction with the goal of LEED Silver certification.
- Honolulu CC – Advanced Technology Training Center has been funded for design with the goal of LEED Silver rating certification.

- (2) Incorporate energy-efficiency measures to prevent heat gain in residential facilities up to three stories in height to provide R-19 or equivalent on roofs, R-11 or equivalent in walls, and high-performance windows to minimize heat gain and, if air conditioned, minimize cool air loss. R-value is the constant time rate resistance to heat flow through a unit area of a body induced by a unit temperature difference between the surfaces. R-values measure the thermal resistance of building envelope components such as roof and walls. The higher the R-value, the greater the resistance to heat flow. Where possible, buildings shall be oriented to maximize natural ventilation and day lighting without heat gain and to optimize solar for water heating. This provision shall apply to new residential facilities built using any portion of state funds or located on state lands;

AG: Not applicable. DAGS handles this.

B&F: Not applicable. B&F does not oversee the design, construction or maintenance of building facilities.

DAGS: DAGS does not typically get involved in residential facilities. However, energy-efficiency measures to prevent heat gain can apply to any facility and these issues are typically addressed during the design phase of all DAGS- managed projects. DAGS' overall strategy is to: 1) look for and become more aware of available energy-efficiency or energy-conservation measures; 2) do better technical reviews during the design phase; 3) consider new products and technologies whenever feasible or advantageous to the state; and 4) strive to get HECO rebates for DAGS-managed projects whenever possible.

DBEDT: DBEDT coordinated the May 2007 Build & Buy Green Conference & Expo at the Hawaii Convention Center, attended by about 600 people, including over 100 from state agencies. The topics of R-19 insulation, radiant barriers, orientation, natural lighting, and natural ventilation were discussed at length.

DBEDT staff met with the Kohala Center in Hawaii County to incorporate into their Sustainability Plan for the county the above provisions for new residences. Staff testified before the Hawaii County Council to incorporate the above measures and prepared letters to the Director of the Honolulu City and County Department of Planning and Permitting, and to a City Council member, proposing adopting of the above provisions.

DBEDT developed documents, spreadsheets and other material to assist DAGS and other agencies with prioritization of energy conservation measures related to the building envelope, air conditioning, lighting, motors and other energy systems.

Related workshops and seminars are reported in the Act 160 section.

DCCA: All DCCA buildings are maintained by DAGS.

DHHL: The Land Development Division shall continue to orient homes to optimize benefits from the trade wind and the sunlight.

DHRD: Not applicable. The department does not own or operate residential facilities.

DHS: As applicable, DHS will continue to coordinate these activities with DAGS to effect energy efficient measures.

DLIR: DLIR does not manage, own, or construct residential facilities or buildings. All facilities occupied by DLIR are constructed and managed by DAGS or in private building leases promulgated by DAGS Leasing Branch. DLIR will work with DAGS to incorporate energy efficient measures into building facilities occupied by DLIR.

DLNR: DLNR does not have any residential facilities in its building inventory.

DOA: This requirement is not applicable to DOA since the department does not have any residential facilities.

DOE: DOE designs all roofs on new facilities to meet the R-19 or equivalent insulation standard. DOE also installs additional insulation when re-roofing older roofs to meet the R-19 standard or equivalent insulation standard where feasible. New schools are planned to meet LEED Silver requirements which should incorporate the use of insulation, orientation of buildings to maximize natural ventilation, use of daylighting, and possible implementation of solar water heating.

In addition, DOE designs all new facilities to meet the R-11 or equivalent insulation standard but does not retrofit walls of existing buildings. Schools being retrofitted for large air conditioning systems for multiple classrooms will be retrofitted with insulation and energy efficient windows to minimize heat gain and cool air loss where feasible.

DOH: Not applicable. The Department has no residential facilities except for historic homes at Kalaupapa Settlement. These buildings must be restored to their original condition.

DOT-Airports: Not applicable at this time. DOT-Airports will apply this requirement if it builds or funds the construction of new residential facilities.

DOT-Harbors: Not applicable to Harbors. Residential facilities are not within Harbors' scope of responsibilities.

DOTAX: DOTAX buildings are constructed and managed by DAGS.

FTZ: Not applicable. FTZ does not manage any residential facilities.

HCDA: Not applicable. HCDA has not constructed any residential buildings under three stories.

HHFDC: Hawaii Housing Finance and Development Corporation (HHFDC) has incorporated by reference in its solicitations for Request For Proposals for affordable housing projects, the requirements of Act 96, Session Laws of Hawaii 2006 and the Governor's Directive No. 06-01, dated January 20, 2006, which requires the following to the extent possible: design buildings for LEED certifications; incorporate energy efficiency measures into residential structures of one to three stories to minimize heat gain and cool air loss; incorporate design features to conserve energy and water; implement water and energy efficiency practices in operations to reduce waste and increase conservation; incorporate principles of waste minimization and pollution prevention; use life cycle cost-benefit analysis to purchase energy-efficient equipment; and procure environmentally preferable products. HHFDC staff also attended the DBEDT's 2007 Hawaii Build and Buy Green Conference and Expo to obtain the latest information on building products being marketed in the state and to hear current industry practices on green building design and construction.

HHSC: Hawaii Health Systems Corporation will address the use of insulation materials, daylighting, and solar in its construction projects whenever possible.

HSPLS: HSPLS received its entire budget request for FY 2008 and 2009 for energy efficiency measures for all of its 51 libraries statewide. The department has requested that DAGS initiate these projects on its behalf immediately.

HTA-CC: Not applicable. HTA has not constructed, nor does it intend to construct, any residential buildings under three stories.

NELHA: NELHA does not have any residential assets and, in fact, is prohibited from having residential structures.

PSD: PSD obtained \$500,000 from the 2007 Legislative Session for a Departmental Energy Conservation program and Energy Efficiency Projects. The scope of this project includes an Energy Efficiency Assessment of all PSD facilities, owned or leased by the department, statewide and will address energy-efficient window options.

UH: System wide, the University of Hawaii will continue to apply the LEED rating system to all Capital Improvement Program new and major renovation projects. The design principles for energy-efficiency measures to prevent heat gain will be incorporated into the buildings to the extent possible. At UH Hilo and Maui Community College, existing resident halls are not air conditioned. Existing resident halls at UH Manoa are also not air conditioned. However, the Frear Resident Housing, currently under construction, includes air conditioning with individual unit controls to minimize energy consumption. The building is designed with long walls facing North and South; the walls are insulated, glazing with low-e coating has been specified to minimize heat gain, and we have specified operable windows to minimize use of air conditioning.

- (3) Install solar water heating systems where it is cost-effective, based on a comparative analysis to determine the cost-benefit of using a conventional water heating system or a solar water heating system. The analysis shall be based on the projected life cycle costs to purchase and operate the water heating system. If the life cycle analysis is positive, the facility shall incorporate solar water heating. If water heating entirely by solar is not cost-effective, the analysis shall evaluate the life cycle, cost-benefit of solar water heating for preheating water. If a multi-story building is centrally air conditioned, heat recovery shall be employed as the primary water heating system. Single family residential clients of the department of Hawaiian home lands and any agency or program that can take advantage of utility rebates shall be exempted from the requirements of this paragraph so they may continue to qualify for utility rebates for solar water heating;

AG: Not applicable. DAGS handles this.

B&F: Not applicable. B&F does not oversee the design, construction or maintenance of building facilities.

DAGS: Typical DAGS-managed state office buildings do not utilize enough hot water to make installation of solar water heating systems “cost-effective.” DAGS’ overall strategy is to continue encouraging our “clients” (other state agencies that seek technical support and assistance from DAGS) to consider using solar water heating systems in their projects, whenever feasible or advantageous to the state.

DBEDT: DBEDT held additional seminars under the Solar for Molokai program; recommended applications include state buildings. Staff also assisted the County of Kauai with proposed code language mandating solar water heating for all new construction, including State buildings.

DBEDT coordinated the 2007 Build & Buy Green Conference & Expo at the Hawaii Convention Center, attended by about 600 people, including over 100 from state agencies. Solar water heating, life-cycle cost analysis, and heat recovery technologies were discussed at length.

DBEDT has provided DHHL in 2007 with brochures and other information on renewable energy, solar water heating, sustainable residential building design, and energy conservation at home to distribute to DHHL’s clients and implement on DHHL projects.

Related workshops and seminars described in Act 160 section.

DCCA: Not applicable. DCCA does not use hot water.

DHHL: The department will continue to encourage beneficiaries to take advantage of utility rebates to install solar water heating systems. For instance, in 2002, DHHL’s Kaniohale project was completed and a number of those homes included water heating systems.

DHRD: Not applicable. The department does not own or operate any building or facilities.

DHS: As applicable, DHS will continue to coordinate these activities with DAGS to maximize energy efficiency and cost effectiveness.

DLIR: DLIR does not manage, own, or construct residential facilities or buildings. All facilities occupied by DLIR are constructed and managed by DAGS or in private building leases promulgated by DAGS Leasing Branch. DLIR will work with DAGS to incorporate solar powered systems to improve the energy efficient measures in building facilities occupied by DLIR.

DLNR: DLNR’s facility portfolio is limited. Most of buildings owned by DLNR are composed of base yards, harbor facilities and park restrooms. DLNR incorporates energy saving concepts into all of its owned facilities as appropriate. Energy-saving concepts include the use of solar water heaters. DLNR evaluates the feasibility of implementing energy conservation measures such as use of solar water heaters when capital improvement projects are designed. As DLNR staff learns more about energy efficiency and solar water heating design, they will incorporate these concepts into building and facility design and renovations.

DOA: This requirement may not be applicable to DOA since very few facilities have a need for water heating systems; however, as part of our retro-commissioning projects, we will review the cost-benefit of converting to solar water heating systems.

DOE: Using a recent photovoltaic study, solar maps were developed which ranked schools based upon levels of solar radiation. The same study results will be used by the Facilities Development Branch to rank schools for solar water heating after the cost of fuel (propane, SNG, or electricity) is factored into the analysis. From this new ranking, DOE will pursue Energy Savings Company (ESCO) activity for solar water heating implementation for Fiscal Year 2008.

DOH: The Department will strive to install solar water heating systems in any of its new buildings or retrofits. Presently, there are no plans to change any water heating systems at any of the health centers. An assessment will be done when a project of this nature is initiated to determine if the water heating system being changed can be converted to a solar system.

DOT-Airports: Not applicable at this time. DOT-Airports will apply this requirement if it builds or funds the construction of new or renovated residential facilities.

DOT-Harbors: DOT-Harbors has taken the following steps: trained staff on Life Cycle Cost Analyses and solar water heating technologies; performed Life Cycle Cost Analyses on existing and planned facilities for solar water heating systems; required design consultants and construction contractors to be knowledgeable of and be able to comply with Act 96 SLH 2006; ensured that solar water heating systems are installed, where cost-effective, with priority to water heating systems experiencing the highest demand; and developed program milestones to encourage 100% implementation over a period of time.

DOTAX: DOTAX buildings are constructed and managed by DAGS.

FTZ: Not applicable. FTZ does not have a water heating system for its facility.

HCDA: Not applicable. HCDA does not own any buildings where it has decision making responsibility over heated water system.

HHFDC: Hawaii Housing Finance and Development Corporation (HHFDC) has incorporated by reference in its solicitations for Request For Proposals for affordable housing projects, the requirements of Act 96, Session Laws of Hawaii 2006 and the Governor's Directive No. 06-01, dated January 20, 2006, which requires the following to the extent possible: design buildings for LEED certifications; incorporate energy efficiency measures into residential structures of one to three stories to minimize heat gain and cool air loss; incorporate design features to conserve energy and water; implement water and energy efficiency practices in operations to reduce waste and increase conservation; incorporate principles of waste minimization and pollution prevention; use life cycle cost-benefit analysis to purchase energy-efficient equipment; and procure environmentally preferable products. HHFDC currently requires program participants receiving state financing to provide a comparative analysis for solar water heating systems to demonstrate whether solar water heating systems are a cost-effective alternative over the life cycle of the system.

HHSC: Hawaii Health Systems Corporation is considering solar water heating and/or heat recovery if it is deemed cost effective.

HSPLS: Not applicable. Hot water is not provided at the public libraries.

HTA-CC: HTA has reviewed with the Hawaii Convention Center (HCC) management HCC's existing hot water systems to see if solar water heating could be added. Based on the limited frequency the hot water is needed and the large quantities that are needed on short notice during those periods of time, solar hot water isn't practical for HCC's application. There would be added cost but no savings.

NELHA: This was accomplished many years ago at NELHA. NELHA has also for many years air conditioned all of its buildings using cold deep seawater. NELHA is, in fact, the world leader in implementing this strategy, which has been neglected by other agencies and private businesses in Hawaii that prefer to use electricity for air conditioning requirements.

PSD: With the collaboration of DAGS-Division of Public Works, the department intends to "piggyback" onto DAGS "Lead by Example" projects, such as retrocommissioning and retrofitting. As mentioned earlier and throughout this FY07 PSD report, the department intends to survey and assess all PSD facilities, owned and/or leased, statewide to identify opportunities that shall yield energy savings, optimize the usage of sustainable materials and replace/upgrade operating systems that result in measurable savings in accordance with Act 96.

UH: System wide, the University of Hawaii will continue to apply the LEED rating system to all Capital Improvement Program new and major renovation projects. The design principles for solar water heating, where it is cost effective, will be incorporated into the buildings to the extent possible. At UH Manoa, the Frear Resident Housing is currently under construction with a hot water system utilizing heat recovery. No new installation of hot water systems is planned at UH Hilo or Maui Community College.

(4) Implement water and energy efficiency practices in operations to reduce waste and increase conservation;

AG: All departmental staff have been provided tips on energy efficient practices and information on the benefits of energy efficiency. With the assistance of DAGS, signs have been posted to remind staff to turn off computers, lights, and other equipment when exiting. Water leaks are to be reported to the Administrative Services Office immediately, including sprinkler systems and outdoor faucets.

B&F: The Department of Budget and Finance encouraged employees through a memorandum to initiate and implement energy efficient practices (i.e., turning off office lights when not in use or when leaving for the day, turning off computer terminals at the end of the day, distributing Energy Star saving tips, etc.).

DAGS: Prior to FY2006-2007 (as funding became available), DAGS-Central Services Division (CSD) initiated projects to replace aging air conditioning and elevator equipment that have resulted in improved operating efficiency. Also, DAGS-managed state office buildings on Oahu were retrofitted with energy-efficient electronic ballasts and T-8 lamps, and the landscape irrigation system at the Kalanimoku Building was replaced with a system that incorporated rain sensors and a sub-meter for water conservation considerations.

During FY2006-2007, DAGS-CSD staff:

1. Initiated projects to replace T-12 fluorescent lamps in selected state office buildings on the neighbor islands with energy efficient electronic ballasts and T-8 lamps.
2. Designated “retrocommissioning (RCx) pilot projects” for selected state office buildings on Oahu, Hawaii, Maui and Kauai. The designated “RCx pilot projects” will include intensive field assessments on the existing building operations and subsequent identification of work task needed to “optimize operations (in accordance with the Act 96, SLH 2006 requirements)” for the state office buildings.
3. Conducted “cost-benefit analyses” and worked with DAGS-Public Works Division (PWD) staff to determine the feasibility of replacing existing energy efficient electronic ballasts and T-8 lamps for state office buildings on Oahu with the new Super T-8 lighting ballasts and lamps.
4. Initiated repair and renovation upgrade projects for the landscape irrigation systems in the downtown civic center (on Oahu) to increase water conservation. DAGS-CSD staff worked with the Board of Water Supply to determine the feasibility of using leak detection loggers to locate and repair “phantom” plumbing leaks.
5. Initiated a project to install a “non-chemical filter system” for the air-conditioning (A/C) chiller units at the State Capitol Building. This will be the first of this type of system installed at a DAGS-managed facility that should decrease domestic water usage and provide the option of using the treated A/C waters for other purposes.

DAGS’ overall strategy is to (subject to appropriation of adequate funding) initiate repair and renovation upgrade projects for landscape irrigation systems (similar to what is being done for the downtown civic center) for DAGS-managed state buildings outside of the downtown civic center on Oahu. In addition, DAGS will specify “low-flow plumbing fixtures” for all new state construction and major renovation projects and replace existing fixtures with low-flow fixtures whenever replacement is required. DAGS will also install sensor-type flush valves and faucets in public restrooms (starting from FY2007-2008) and investigate the feasibility of alternative water conservation measures, such as the installation of waterless urinals in public restrooms.

DBEDT: Most of DBEDT’s energy-related work is supported by Federal funds, often the result of winning nationwide competitive grant solicitations.

DBEDT coordinated the 2007 Build & Buy Green Conference & Expo at the Hawaii Convention Center, attended by about 600 people, including over 100 from state agencies. Water and energy efficiency practices were discussed at length as a means of achieving LEED Silver and Hawaii BuiltGreen™ 3-Star Level. Hawaii BuiltGreen™ is a program of the Hawaii Building Industry Association, a non-profit trade organization representing building developers, builders, suppliers and associates.

DBEDT developed documents, spreadsheets and other material to assist DAGS and other agencies with prioritizing energy conservation measures related to the building envelope, air conditioning, lighting, motors and other energy systems.

DBEDT staff met with the Honolulu Board of Water Supply Water Conservation Committee to plan a much more comprehensive water conservation program than has previously been undertaken, and is keeping the committee apprised of recent cost-effective technologies to reduce water use.

DBEDT staff currently sit on the Building Owners and Managers Association of Hawaii (BOMA) Energy Committee and share DBEDT’s measurement of energy use in state facilities to serve as baseline for assessing energy performance with the committee.

DCCA: All fixtures throughout our buildings are water-saving fixtures. The landscape is watered only during the evening hours.

DHHL: Every effort will be made to comply. DHHL will continue to encourage our homesteaders to practice water and energy efficiency and encourage waste minimization as well as increase conservation.

DHRD: Staff attended energy conservation training coordinated by the Department of Accounting and General Services and Hawaiian Electric Company. The department will continue to encourage all employees to implement energy conservation practices (e.g., turning off lights in the restrooms and hallways at the end of the day, turning off copy machines at the end of the day, using the stairs, etc.) and will share energy conservation tips that can also be used at home.

DHS: DHS continues to issue water and energy conservation procedures for buildings and offices, in coordination with procedures issued by DAGS.

DLIR: An assessment of electricity usage was completed for nine of the Department of Labor and Industrial Relations (DLIR) offices that are not maintained by DAGS Central Services. The assessment of the nine offices covered the period July 1, 2005 through June 30, 2007. Based on our review, nine offices utilized a total of 905,325 kilowatt-hours resulting in a total cost of \$270,521.52. Based on the energy usage, DLIR will work with DAGS to insure that best energy saving practices are incorporated into reminder memoranda as required to address energy conservation. DLIR will also work with DAGS to incorporate some of the following energy saving measures: replace old toilets and sinks with low flow fixtures (toilets and sinks); replace old lighting fixtures; and request that DAGS Leasing Branch conduct energy efficiency analyses in privately-leased buildings and work with landlords to replace old toilets, sinks, air conditioners, and lights.

DLNR: The department installs low-flow fixtures (toilets and sink faucets) to replace older fixtures, which use more water, as department facilities are renovated. Additionally, some remote restrooms use composting toilets, which require very little water. Staff are reminded to turn off equipment when not in use, keep blinds closed, and report equipment malfunctions. Energy efficient light bulbs are used where feasible and timed sensors have been installed to allow automatic shutoff of lights. Additionally, natural ventilation and lighting are used in most comfort stations.

Kahoolawe presents a unique opportunity for alternatives to reduce energy consumption due in part to the Island's small population and isolation. Additionally, because of the Island's unique status as a cultural and environmental preservation site, the use of alternative water systems and energy resources is believed to be most appropriate. As part of the Kahoolawe Island Reserve Commission's (KIRC) mandated requirements under HRS 6-k, a volunteer restoration program brings 15 to 20 high school students to the island on Mondays to assist in planting native plants as part of the restoration program. The students normally leave Kahoolawe on Thursday afternoon. To achieve the conservation of water and energy, KIRC is providing volunteers with biodegradable soaps and recaptures all the water from the shower facilities. The Reverse Osmosis system produces about 1,500 gallons per day of fresh drinking water, which is more than adequate for the demand.

There are no harbor facilities on Kahoolawe; restoration efforts are accomplished with helicopter support. Additionally, the 11-acre base camp on Kahoolawe is not connected to the utility grid and operates with diesel generators. One of the steps recently taken was to install a more energy-efficient generator, which reduced diesel usage from 150 gallons per day to 75 gallons per day. Since the diesel fuel must be flown in by "huey helicopter," it is a significant reduction of KIRC's dependence on fossil fuels and costs, as well as conserving resources.

DOA: The Department of Agriculture has:

- (1) Identified retrocommissioning and specific energy efficiency projects and related costs for each year of the FY 2007-2009.
- (2) Submitted budget requests for funding to implement retro-commissioning and specific energy efficiency projects for each year of the FY 2007-2009. The legislature appropriated a total of \$215,058 in general fund in FY08 in the department's operating budget for lighting and window tinting projects and \$79,434 in general obligation bond funds in FY08 in the department's capital improvement program budget for retro-commissioning projects.
- (3) Obtained Governor's approval to delegate operating funds for the lighting and window tinting projects to DAGS as the expending agency. DOA will be requesting initiation of projects once operating funds are allocated for the full year and the capital improvement project implementation plan is reviewed and approved.
- (4) Requested from DBEDT a list of energy and water conservation practices that we could implement. DOA received some ENERGY STAR saving tips for equipment, lighting and car driving and maintenance (adapted from US EPA) from DBEDT staff.
- (5) Retrieved information electronically on gas consumption and odometer readings from DAGS Automotive

Management Division, Tesoro and Hawaii Petroleum for FY06. Developed and distributed vehicle refueling log for programs that have vehicles which refuel at places other than DAGS, Tesoro and Hawaii Petroleum.

- (6) Retrieving information electronically on gas consumption and odometer readings for each vehicle from DAGS Automotive Management Division, Tesoro and Hawaii Petroleum for FY07. Once completed, this information will be distributed to program managers for their review and information.
- (7) Monitored and compiled kWh consumption data and cost for electricity for FY06.
- (8) Established target consumption goals for electricity, fuel and environmentally preferred products for the department to meet by FY2008 and FY2015 in line with statewide Lead by Example Targets contained in the Report to the 2007 Hawaii State Legislature, Lead by Example, State of Hawaii Agencies' Energy Initiatives, FY 2005-2006, prepared by the Department of Business, Economic Development, and Tourism. Baseline electricity consumption data in kWh for FY05 were used to determine the target consumption goal for electricity for FY2008 and FY2015. Baseline fuel consumption data in gallons and baseline environmentally preferable products consumption data in units for FY06 were used to determine target consumption goals for FY2008 and FY2015. No baseline data on fuel consumption and environmentally preferable products were available for FY05.
- (9) Finalized and issued the department's Energy and Water Conservation and Resource Efficiency Program which provides policies, guidelines and practices with the goal of minimizing energy, fuel and water consumption and implementing resource-efficient operations. Includes department's target consumption goals for electricity, fuel and environmentally preferred products.
- (10) Distributed Governor's memo requesting employees to conserve water and to report any water waste from open faucets, leaky plumbing fixtures, and broken and/or inefficiently run irrigation systems.
- (11) Developed a spreadsheet to compare data in FY2005, FY2006, & FY2007 for electricity consumption and percentage increase/decrease from the previous year, and distributed it to program managers for their review and information.

DOE: DOE has developed an internal system that will allow the comprehensive managing of all utilities—electricity, water, sewage disposal, and gas—for all schools through a central office. Beginning March 1, 2007, the payment of all utilities was centralized into one office. A system to track all utilities will enable DOE to establish programs that monitor utility use by schools, specifically identifying campuses with higher than anticipated consumption.

DOE implemented a school energy conservation program on July 1, 2007. DOE has calculated the “unadjusted” allocation of kilowatt-hours (kWh) for all schools using the average electricity consumption in the 36 months through June 2006 as a base. Beginning this school year, schools that reduce their consumption below the allocated amount will receive half the value of the savings; schools that fail to reduce their consumption below the allocated amount will be charged for half the value of the kWh used above the allocated amount. The state office will bear the risk of increases (and benefit from any reductions) in electricity rates. We will reconcile the school kWh usage against the allocation twice a year, in January for the preceding July through December, and in July for the preceding January through June. Schools earning a rebate will receive those funds via an allocation from the Electricity Fund and will be able to use those funds at their discretion. Schools requiring a charge back will receive a bill for collection from the Auxiliary Services Branch.

Immediate steps for conservation programs continue and are listed as follows:

- 1) Continue with implementation of LEED Silver for new and major construction projects. Training for LEED New Construction has been completed by key DOE personnel. Supplemental training is required by the “LEED for Schools” guidelines just recently released by USBGC.
- 2) Continue installing low-flow bathroom fixtures whenever fixtures require replacement.
- 3) All incandescent lamps will be replaced with compact fluorescent lamps (CFL).
- 4) A study measuring the effectiveness of motion (occupancy) detectors for controlling classroom lighting has been completed. Future ESCO work will include motion/occupancy detection switches for classroom lighting.
- 5) Life Cycle Costs Analysis (LCCA) will be performed on school equipment and operations.
- 6) LCCA results will be used to determine product selection for ESCO, Performance Contracting, Municipal Leasing, and/or Purchase Power Agreement activities.
- 7) Continued meetings with vendors seeking new energy conserving technologies. Continuing with pilot (test) studies of new, promising technologies.
- 8) Establishment of an Energy and Water Conservation “Steering Committee” or “Task Force” within the Office of Business Services to expedite and streamline multiple conservation activities between

branches and within DOE as a whole.

- 9) Open discussion with the Board of Water Supply to seek innovative water conservation concepts, projects, and/or studies such as an Irrigation Management Control System, plant species, drip irrigation, and captured rainwater.

Immediate steps for school conservation are listed below:

- 1) Guidance for schools to use daylight sensing to turn night lights on and off.
- 2) Limiting the use of certain equipment types within schools.
- 3) Encourage shutting down all air conditioning, computers and peripheral equipment at the end of the workday.
- 4) Encourage the non-use of air-conditioning during cooler days and to supplement cooling with fans.
- 5) All incandescent lamps are to be replaced with compact fluorescent lamps (CFL).
- 6) Purchase of ENERGY STAR products for new and replacement equipment.

DOH: Presently, the Department has not addressed this issue except through state sponsored programs. The Department plans to issue material to its employees to encourage conservation. The Communications Office regularly issues bulletins to the employees and this vehicle is the most efficient.

DOT-Airports: The airports must try to minimize water usage, but must also be mindful of time constraints on passengers. The airports are exempt from rules on low-flush toilets to accommodate passengers' time restrictions, but utilize sensors for toilet flushing and sink faucets to keep from wasting water.

The airports utilize R-1 water where possible and non-potable water as the next priority for landscape irrigation. As an example, Kona International Airport at Keahole uses the effluent from their wastewater treatment plant for irrigation, while Honolulu International Airport uses non-potable water from Sumida Watercress Farm for irrigation.

At Honolulu International Airport and Dillingham Airfield, DOT-Airports has a contract with an outside firm to monitor the water system so leaks can be found and repaired quickly to keep from wasting water. Meters are also read and checked against prior usage to see if there is a spike in water usage, which may indicate a problem.

The airports must also try to conserve energy usage, but must also be mindful of the comfort level of passengers and workers.

At Honolulu International Airport, there is an Energy Monitoring and Control System to turn off lights in areas that are not in use and reduce or eliminate air conditioning in these areas. Current projects at Honolulu International Airport include the replacement of older, less efficient chillers with new chillers and a chilled water loop system which will enable chillers to be shut down during low utilization periods and operate on fewer chillers, but at a higher efficiency.

At Kona International Airport at Keahole, plans are continuing for the use of cold "deep sea" water to cool enclosed areas and the installation of a new parking deck covered with photovoltaic modules to provide the airport with approximately 1/5 of its current energy needs.

DOT-Harbors: The following steps have been taken to achieve water efficiency: install, where practical, low flow toilets, low flow shower heads, and faucet aerators; install timers or require staff to conduct irrigation and watering of plants during early morning or evenings to reduce water lost to evaporation; and develop program milestones to encourage 100% implementation over a period of time.

Regarding energy efficiency, the following steps have been taken: install timers onto HVAC and/or motion detectors onto lighting systems and other equipment facilities as appropriate; install tinting on windows and glass doors as appropriate; monitor lighting levels and use natural window/skylight lighting as sufficient; develop program milestones to encourage reduction of energy consumption over a period of time.

DOTAX: DOTAX is charged for after hours and weekend air conditioning usage. Requests for after hour and weekend air conditioning are primarily during tax season when the department runs night and weekend shifts to process a surge of tax returns, deposits and refunds. These requests continue to be monitored and approved by the Administrative Services Officer.

FTZ: Faucets in the two bathrooms in the newly constructed wing of the building provide a timed flow of water before shutting off. Toilets installed in the two new bathrooms use commercial flush system.

FTZ had two forty-ton chiller units installed about five years ago and one fifty-ton chiller unit installed two years ago. The chiller units were purchased and installed based on a 2001 Energy Feasibility Study of the Foreign-Trade Zone No. 9 prepared by Global Engineering & Construction, LLC. Approximately 40 new individual air conditioning units with high efficiency motors were purchased and installed last year also based on the 2001 Energy Feasibility Study of the Foreign-Trade Zone No. 9. The FTZ uses T8 fluorescent lights in its administrative and tenants' offices.

FTZ had Mr. Howard Wiig, an Institutional Energy Analyst from DBEDT's Strategic Industries Division, brief FTZ staff on energy efficiency, specifically in the areas of lighting and HVAC. As result, FTZ completed a photometric survey before installing a new perimeter lighting system, eliminating five 400W metal halide fixtures which will provide substantial savings.

FTZ staff attended training concerning new developments in lighting sponsored by GE Lighting. FTZ staff also attended a class on energy efficiency provided by Hawaiian Electric.

HCDA: HCDA has installed moisture sensors on irrigation systems in Kakaako Waterfront and Kakaako Makai Gateway Parks to conserve water.

HHFDC: Hawaii Housing Finance and Development Corporation (HHFDC) has incorporated by reference in its solicitations for Request For Proposals for affordable housing projects, the requirements of Act 96, Session Laws of Hawaii 2006 and the Governor's Directive No. 06-01, dated January 20, 2006, which requires the following to the extent possible: design buildings for LEED certifications; incorporate energy efficiency measures into residential structures of one to three stories to minimize heat gain and cool air loss; incorporate design features to conserve energy and water; implement water and energy efficiency practices in operations to reduce waste and increase conservation; incorporate principles of waste minimization and pollution prevention; use life cycle cost-benefit analysis to purchase energy-efficient equipment; and procure environmentally preferable products. HHFDC will take steps to assess the water and energy needs of its residential housing inventory beginning fiscal year 2007-008.

HHSC: Hawaii Health Systems Corporation presently has installed low water flow fixtures in four of its twelve facilities and will install more low water flow fixtures in the other eight facilities as funds permit.

HSPLS: HSPLS received its entire budget request for FY 2008 and 2009 for energy efficiency measures for all of its 51 libraries statewide. The department has requested that DAGS initiate these projects on its behalf immediately.

HTA-CC: Water conservation continues to be practiced at the Hawai'i Convention Center. There are air conditioning and lighting control systems for scheduling. Additionally, four CIP projects will be scheduled within the fiscal year that will cut the costs by upgrading the existing lighting systems in the ballroom, exhibition hall, administrative areas and the fire egress stairwells.

NELHA: NELHA uses timed irrigation systems, produces much of its own drinking water, and its staff turn off lights when nobody is in a room. Computers are shut down when not in active use. In some areas, NELHA uses seawater instead of potable water to irrigate grassed areas. NELHA's average monthly electrical bill from HELCO is about \$106,000. Of that amount, the only items over which NELHA has control are the lights, computers, and air conditioning in its own buildings (All other electricity is used to pump and distribute seawater to the commercial tenants at NELHA and NELHA has no control over their usage). Therefore, NELHA can influence only about \$7,500 (at most) per month of energy consumption. The practices which NELHA instituted years ago and continues to follow include: turning off bathroom lights when the room is not in use, turning off office lights during the lunch hour and whenever outside light is adequate, turning off computers when not in use, operating the Gateway buildings without inside lighting and relying on ambient outside light to the greatest possible extent.

PSD: PSD plans to collaborate with DAGS-Division of Public Works to contract for the "retro-commissioning" of Public Safety facilities statewide. This is a process to verify whether or not the building environment is operating properly and providing energy efficient fixes to create a better environment. Additionally, the department will be requesting DAGS to scope opportunities for retrofitting various systems, such as lighting, to reduce the levels of energy consumption. Finally, as funding allows, a survey will be conducted to evaluate energy savings opportunities and strategies to implement via widely used alternative financing strategies.

UH: System wide, the University of Hawaii will continue to implement water conservation and energy efficiency practices in operations through its repairs and maintenance programs. Currently, toilet valves are replaced with sensor valves, where possible, or dual flush handles. Urinals in renovation projects are being replaced with the waterless type. Showerheads are replaced with low flow heads. Water leaks continue to get top priority for repairs, and landscape irrigation systems are replaced with drip system and rain sensors where feasible. Fluorescent fixtures, when required to be replaced, are converted to energy efficient ballasts and lamps. When major water pumps and fans are required to be replaced, variable speed drives are specified. Class schedules continue to be consolidated where feasible during evening and weekends.

- (5) Incorporate principles of waste minimization and pollution prevention, such as reducing, revising, and recycling as a standard operating practice in programs, including programs for waste management in construction and demolition projects and office paper and packaging recycling programs;

AG: All departmental staff have been provided tips on energy efficient practices and information on the benefits of energy efficiency. With the assistance of DAGS, signs have been posted to remind staff to turn off computers, lights, and other equipment when exiting. Water leaks are to be reported to the Administrative Services Office immediately, including sprinkler systems and outdoor faucets.

B&F: The department currently participates in an office paper recycling program.

DAGS: For the last several years, DAGS-Central Services Division (CSD) managed a program for recycling white paper and cardboard at 13 major state office buildings via a contract with a private recycling company.

A DAGS-designated “pilot reverse-vending machine program” for recycling aluminum cans, glass and plastic was set up at the State Capitol Building to determine the feasibility of this concept. The vending machines allow individuals to recycle empty containers and receive payment for the containers that were deposited. Although the project is doing well, further analysis of the pilot will continue before expanding to other sites. The machines, which are supplied by Reynolds Recycling, are expensive. In essence, it was determined that the machines must have 24/7 security, hence they should be located inside buildings. DAGS staff also learned that the state must service (empty) the machines, crush the aluminum cans, and store all the cans, glass and plastics for pick-up. This limits the ease of operating the program at all state facilities.

A DAGS-PWD draft “Construction Waste Management Guide Specification (CWMGS)” was posted on the DAGS-PWD website for possible future implementation. A major focus of the CWMGS is the monitoring and record-keeping of construction waste management. Via discussions with construction industry representatives, DAGS-PWD staff are aware that the proposed CWMGS will involve additional tasks that take time and money. Unfortunately, if DAGS-PWD does not include the monitoring and record-keeping, there is no way to properly “measure compliance.” DAGS-PWD staff also sought input from contractors/vendors/public via on-line surveys and continued participation in the Environmental Committee of the General Contractors’ Association (GCA), soliciting ideas on how to draft a CWMGS which would not significantly increase project costs. Response from the construction industry was sparse, and without a mandate and adequate funding to continue, it lacked the necessary support for full DAGS implementation. Once funding for this type of initiative is identified, say, as part of a LEED certification initiative, and then the specification can be used.

DAGS’ overall strategy, subject to appropriation of adequate project funding, is to expand its recycling efforts for office white paper and cardboards and to institute an informal program for the recycling of aluminum cans, glass and plastic bottles in DAGS- managed state buildings, whenever possible. Currently, these items are usually recycled by the custodial staff and/or building occupants. DAGS will also consider expanding the “pilot reverse vending machines” project (with Reynolds Recycling) at the State Capitol Building to other state buildings, if feasible. During FY2007-2008, DAGS plans to expand its recycling efforts to include discarded computers, office equipment and furniture.

DBEDT: Most of DBEDT’s energy-related work is supported by Federal funds, often the result of winning nationwide competitive grant solicitations.

DBEDT coordinated the recycling of white paper, newspaper and phone books in ten state buildings located in downtown Honolulu.

DBEDT coordinated the 2007 Build & Buy Green Conference & Expo at the Hawaii Convention Center, attended by about 600 people, including 100 from state agencies. Build It LEED from the Cascadia USGBC Chapter was presented during one of the breakout session tracks on Construction, and demolition waste management and pollution prevention practices were discussed at length as a means of achieving LEED Silver and Hawaii BuiltGreen™ 3-Star Level.

DBEDT executed a letter of agreement with Envirospec in support of a green cleaning pilot project in with State of Hawaii agencies. Green cleaning is an important component of pollution prevention and reducing the volatile organic compounds used in the cleaning process. The pilot sites for this project will be coordinated and selected with the Department of Education and the University of Hawaii.

DBEDT presented a paper titled “Retrieving Ghostnet at Minimal Cost” to the Pacific Congress on Marine Science and Technology (PACON) 2007 Congress in Honolulu. The paper proposes rewarding fishermen for retrieving ghostnets from North Pacific gyres and bringing the nets to for disposal at Pier 38 in Honolulu. Such retrieval would prevent the net from drifting to the reefs of the main Hawaiian Islands and Northwest Hawaiian Islands, damaging reefs and killing marine animals.

DBEDT presented a paper titled “A Biorefinery for Midway” at the 2007 Hawaii Conservation Alliance

convention in Honolulu. The paper proposes installing on Midway Island a prototype biorefinery which would convert food waste, green waste and solid waste to electricity and heat, leaving only a fine ash as residue. Solid waste would include the approximately three tons of small plastic debris that wash onto Midway's beaches each year and starve Laysan Albatrosses which ingest the debris.

DBEDT staff offered recommendations for a new technology combining a GPS system and LED lights into one marine device capable of being attached to mounds of ghostnet floating in North Pacific gyres and constituting a hazard to passing ships and marine life. The GPS system would enable Coast Guard ships to retrieve the net on an as-available basis. The retrieved net would be processed and converted to fuel at Oahu's H-POWER plant.

DBEDT, through Lead By Example Environmentally Preferable Procurement Working Group meetings, provided information and training to executive agency leadership on state policies and procedures relating to green purchasing. These meetings broadened awareness of purchasing mandates and efficient means of identifying and selecting environmentally preferable products via the state procurement system.

DCCA: DCCA always encourages employees to recycle used paper. Blue recycle bins are located in the building and picked up weekly by Island Recycling, contracted through DAGS.

DHHL: Staff are instructed to recycle office paper and other recyclables when possible. Recycling receptacles are set up around the office. The Land Development Division will incorporate waste management programs in their development/construction contracts to minimize waste and pollution.

DHRD: The department participates in the office paper and telephone book recycling programs coordinated by the Department of Accounting and General Services.

DHS: DHS continues to implement waste minimization and recycling procedures, consulting with the appropriate agencies such as DAGS and DOH.

DLIR: In FY07, DLIR participated in an Environmental Preferable Purchasing (EPP) survey which was mandated under the following federal and state laws, and the applicable Administrative Directives:

- Resource Conservation and Recovery Act (RCRA), Section 6002, 42 U.S.C. 6962. The RCRA requires state and local government agencies and their contractors receiving appropriated federal funds to purchase EPA-designated recycled content products.
- Section 103D-1005(b) of the Hawaii Revised Statutes. Section 103D-1005(b) requires state purchasing agencies and encourages county purchasing agencies to
 - Apply preferences to purchase of products with recycled content;
 - Be consistent with RCRA Section 6002, E/O. 13101 and its progeny;
 - Ensure, to the maximum extent economically feasible, the purchase of materials that may be recycled or reused when discarded and to avoid the purchase of products deemed environmentally harmful.
- Administrative Directive 06-01, signed by Governor Lingle in January 2006, requires state agencies to purchase environmentally preferable products that reduce their impact on the environment and improve indoor environmental quality. Also included are ENERGY STAR and low toxicity products.

DLIR will continue to utilize the SPO price list and require all programs to purchase recycled and environmentally preferable products.

DLNR: DLNR encourages its staff to implement office paper recycling and such a program is in place and has begun to incorporate energy savings practices into design projects such as the recycling of existing asphalt and concrete pavement into backfill material. The Kahoolawe Island Reserve Commission (KIRC) has very specific SOPs in place regarding recycling waste and is in the process of converting all of paper goods, specifically paper "china," to biodegradable products.

DOA: The Department of Agriculture worked with DAGS to have Island Recycling continue pick-up service for recycling bins used to collect white paper only on Oahu. DOA also placed a container next to vending machine to capture empty soda cans for recycling. The department obtained white paper recycling pickup by Island Recycling under a DAGS' contract which requires pick up of two bins of white recycled paper once a month. Information was distributed to departmental employees regarding the University of Hawaii's eWaste Disposal Day which provided an opportunity to Hawaii residents to dispose of computers and other unwanted electronic equipment by dropping them off at various UH campuses. The department's Energy and Water Conservation and Resource Efficiency Program was finalized and distributed; the program provides policies, guidelines and practices with the goal of minimizing energy, fuel and water consumption and implementing resource-efficient operations including promoting the 4 Rs – reduce, recycle, reuse and re-buy.

DOE: Principles of waste minimization and pollution prevention, recycling, and waste management are incorporated within LEED requirements. Therefore, by seeking LEED Silver certification, DOE will approach meeting the said principles in practice. Also, this practice will be incorporated into specifications for repair and maintenance (R&M) projects where applicable. DOE's long-term visions, which extend beyond FY

- 09/10, call for the department to: install PV systems where feasible when re-roofing buildings; set aside 1% of construction funds to create a pool of funds for energy-savings investments; develop a share-the-savings plan for water; and develop a recycling program for all schools.
- DOH: All facilities recycle office paper. Bins are also available for recycling cans and bottles. DOH will issue guidelines for all health centers to follow.
- DOT-Airports: Airports Division has implemented an island-wide dedicated unit for environmental compliance. This consists of environmental health specialists located at the major airports (Honolulu International Airport, Kona International Airport at Keahole, Kahului Airport and Lihue Airport) to ensure compliance with all environmental regulations and provide training to tenants and employees. At Honolulu International Airport, DOT-Airports recycles white paper and cardboard and monitors the amount recycled. Glass, newspaper, plastic and aluminum recycling is made difficult by security regulations at airport locations. Currently, partial programs are operating at the larger airports.
- DOT-Harbors: Harbors requires double-sided printing from copiers and printers as practical. The Division provides recycling bins for aluminum cans, bottles, plastic and papers where convenient, and will develop program milestones to encourage 100% implementation over a period of time.
- DOTAX: DOTAX's standard operating practice includes monthly paper recycling.
- FTZ: FTZ recycles cans. FTZ has also advised its staff to use energy saving websites such as "Blackle.com" instead of Google.com.
- HCDA: HCDA has incorporated recycling of bottles, cans, plastic and paper within its office. In demolition projects, the contractor is encouraged to separate and recycle materials whenever practical.
- HHFDC: Hawaii Housing Finance and Development Corporation (HHFDC) has incorporated by reference in its solicitations for Request For Proposals for affordable housing projects, the requirements of Act 96, Session Laws of Hawaii 2006 and the Governor's Directive No. 06-01, dated January 20, 2006, which requires the following to the extent possible: design buildings for LEED certifications; incorporate energy efficiency measures into residential structures of one to three stories to minimize heat gain and cool air loss; incorporate design features to conserve energy and water; implement water and energy efficiency practices in operations to reduce waste and increase conservation; incorporate principles of waste minimization and pollution prevention; use life cycle cost-benefit analysis to purchase energy-efficient equipment; and procure environmentally preferable products. HHFDC will take steps to assess the waste minimization and pollution prevention policies of its residential housing inventory beginning fiscal year 2007-008.
- HHSC: HHSC has implemented paper and cardboard recycling in its facilities. Silver is being reclaimed as a precious metal, a commodity with significant economic value. Used oil from automobiles, generators, vacuum pumps, and compressors is delivered to the County Landfill under their recycling program. All Biohazard Wastes are autoclaved, then shredded to tiny chips and placed into a large covered bin. Batteries with lead-acid and alkaline content are disposed of through a designated contractor. Construction materials are separated whenever possible. Green waste is stored in bins and delivered to a green waste facility for composting. CRT and TV monitors are removed and disposed of through a Computer-Swap Program sponsored by the County of Maui.
- HSPLS: HSPLS does subscribe to recycling through private disposal companies as well as through DAGS throughout the state.
- HTA-CC: The Hawaii Convention Center continues to have an extensive recycling program for both administrative functions and special events. HCC partners with show management to maximize the recycling of event material and donate excess food to charities that use it to feed the homeless.
- NELHA: NELHA recycles all materials which are recyclable. NELHA would recycle more trash that is recyclable; however, recyclable trash from the beach park trash containers is stolen on a nightly basis by human scavengers. NELHA stores old equipment for potential re-use in view of how difficult it is to get new equipment authorized for purchase. As much as possible, items are rebuilt and re-used. The NELHA bone yard is a source of much valuable material that can be used for patches, repairs, and other needs; for example, all 40- to 50-year-old OTEC monitoring equipment has been removed, cleaned, stored, and available for replacement parts as most of this sort of equipment cannot even be purchased any longer.
- PSD: Recycling is a standard operating practice in the Department. PSD recycles phone books by donations to schools through a building project coordinated with Department of Health. Other paper is recycled in recycling green bins located in the building's hallways. Newspaper, cans and plastic are collected in receptacles set up for PSD Administration Offices. Fax and copier machine cartridges are mailed back to the vendor for recycling and some are donated to schools. Recommendations for appropriate Policies and Procedures on waste minimization and pollution are being proposed.
- UH: Once again, Apple Computer agreed to e-cycle the University's electronics at no charge throughout the UH

system. University departments scheduled pickups on their own as long as they had 25 units. Requests were submitted between May 15 and June 30, 2007, and pickups ran through July 31, 2007. Unlike last year's Hawaii-only End-of-Life (EOL) Electronics recycling event, this year's event was part of a national program.

University of Hawaii at Manoa – 93 paper bins are placed in 31 locations for recycling; mixed paper, newspaper, cardboard, metal, green waste, and concrete are collected and recycled; HI-5 recycling occurs in 11 locations with expansion to 4 additional locations this semester; and, in accordance with a February 2005 contract, RRR Recycling Services of Hawaii continues to provide, operate and maintain a mobile redemption truck in the Zone 17 Law School parking lot and will be assigned the use of a gravel parking lot next to Klum Gym as a semi-permanent location for redemption of acceptable containers with the HI-5 label.

University of Hawaii at Hilo – UHH campus operations recycle unneeded cardboard, white paper, shredded paper, mixed/color paper, glass, plastic, and aluminum. Batteries are recycled. Old useable computers are sent to educational programs at the prison for reuse and/or electronics program for training purposes. Old un-useable computers were recycled during e-recycling days. Food vendor uses re-useable plates, glasses, table wear where practical for eat-in dining, and paper products where practical for carryout dining. Food by-products are used as slop food for farm pigs.

University of Hawaii-West Oahu – UHWO paper recycling efforts remain the same as last year. UHWO faculty and staff voluntarily recycle aluminum cans and plastic bottles on an informal basis. Cans and bottles (approximately 200 per month) are donated to charitable organizations (clubs, scouts, soccer teams, churches, etc.) for redemption.

Community Colleges – See Appendix 9, addressing the individual campuses' efforts to minimize waste and prevent pollution.

(6) Use life cycle cost-benefit analysis to purchase energy efficient equipment such as ENERGY STAR products and use utility rebates where available to reduce purchase and installation costs; and

AG: All staff involved in purchasing equipment have been advised of the ENERGY STAR program and must document reasons for not purchasing ENERGY STAR, when available.

B&F: The department will include the use of life cycle cost-benefit analysis where applicable.

DAGS: DAGS-managed state projects already require mechanical equipment (i.e., A/C motors, pumps, etc.) to be high efficiency, and utility rebates have typically been used to help offset installation and higher pricing costs for these energy efficient products. In FY2007-2008, DAGS staff started working with Hawaiian Electric Company (HECO) staff on development of a preliminary “DAGS/HECO process flow” to ensure all DAGS-managed projects on Oahu will apply for available rebates on energy efficiency or energy conservation measures. DAGS also started to look at “cost/benefit analyses” when replacing existing air-conditioning (A/C) systems with new, more efficient A/C systems (even prior to the existing systems reaching their expected life span).

DAGS’ overall strategy is to, whenever feasible; request that premium efficiency motors for mechanical equipment (the highest efficiency available) be installed. DAGS also will consider “cost/benefit analyses” when replacing existing air-conditioning (A/C) systems with new, more efficient A/C systems (even prior to the existing A/C systems reaching their expected life span). The department will work with Hawaiian Electric Company (HECO) on development of a “DAGS-HECO process flow” to ensure available utility rebates for state projects on Oahu are not missed and to duplicate this arrangement for state projects on the neighbor islands.

DAGS will install ENERGY STAR equipment, whenever feasible, as a standard requirement for all state construction projects.

DBEDT: Most of DBEDT’s energy-related work is supported by Federal funds, often the result of winning nationwide competitive grant solicitations.

DBEDT conducted or co-sponsored numerous seminars on energy efficiency for state employees and the private sector.

DBEDT staff provided training and technical assistance on the concept of life cycle costing to the Sustainable Saunders Energy Committee, which is using Saunders Hall as a model for the University of Hawaii at Manoa.

DBEDT continues to promote ENERGY STAR Product Promotion and Procurement, which included the following activities:

- Conducting ENERGY STAR product procurement workshops to promote purchasing of ENERGY STAR products by State of Hawaii and local government housing as well as other state, federal agencies, and the territories.
- Providing technical assistance to housing, local government, state and/or federal agency representatives in purchasing ENERGY STAR products.
- Promoting other training opportunities such as on-line ENERGY STAR webcasts in areas such as ENERGY STAR Procurement and Products.
- Providing technical assistance to support labeling three ENERGY STAR State of Hawaii buildings.
- Coordinating participation and attendance of various state agency representatives at the training sessions.

DBEDT coordinated the 2007 Build & Buy Green Conference & Expo at the Hawaii Convention Center, attended by about 600 people, including over 100 from state agencies. Life-cycle cost analysis and ENERGY STAR products were discussed at length as a means of achieving Hawaii BuiltGreen™ 3-Star Level.

Governor Lingle joined the National ENERGY STAR Change a Light, Change the World Campaign and also proclaimed October 2006 Energy Awareness Month. A similar proclamation has been proposed for the 2007 Change a Light, Change the World Campaign. DBEDT coordinated Hawaii’s observance of the US Department of Energy’s Change a Light, Change the World program, including publicizing economic benefits via life-cycle costing.

DBEDT assisted energy consultants on energy analysis using DOE2/EQuest, ECM cost data and the use of Federal Energy Management Program (FEMP) Building Life Cycle Cost (BLCC) computer program. Assistance was provided for the State Capitol Building Preliminary Energy Assessment (PEA), Iolani Palace energy feasibility studies, UH College of Business building, DOT’s new lounge, and the analysis of the Economic, Environmental and Occupant Sustainability report for the DOE public schools report.

DCCA: DCCA purchases ENERGY STAR products for all available computer equipment.

DHHL: DHHL will look at ENERGY STAR products when purchasing new office equipment. The department will use rebates when available.

DHRD: The department uses the State Procurement Office price/vendor lists for procurement of most of its equipment. Copiers that are leased and computers, monitors, and printers that are purchased are ENERGY STAR products.

DHS: DHS procurement procedures include requirements for purchasing energy efficient products such as ENERGY STAR, and as applicable will utilize available utility rebates.

DLIR: DLIR programs have not been major users of ENERGY STAR products; however, DLIR will include a procedure to include ENERGY STAR products as part of the procurement approval process. In addition, DLIR will also include in our procurement procedure a policy to check whether utility rebates are available and can be utilized in the purchase of the products.

DLNR: DLNR uses life cycle cost-benefit analysis to purchase energy efficient equipment such as ENERGY STAR products, and uses utility rebates where available to reduce purchase and installation costs.

DOA: Finalized and issued the department's Energy and Water Conservation and Resource Efficiency Program which provides policies, guidelines and practices with the goals of minimizing energy, fuel and water consumption and implementing resource-efficient operations, including purchasing energy efficient equipment such as ENERGY STAR products and using utility rebates where available.

DOE: DOE is encouraging all schools and offices to purchase ENERGY STAR or any energy-efficient alternative equipment that passes life-cycle cost benefit analysis. The Procurement and Contracts Branch will assist schools and DOE offices to develop the bid specifications to analyze life cycle cost benefit required to purchase energy efficient equipment over \$25,000. Life cycle cost-benefit analysis will be the requirement to select groups of equipment commonly found and used by DOE facilities for end-of-life replacement. Life cycle cost-benefit analysis will be used in ESCO, Municipal Leasing, Performance Contracting, and/or Purchase Power Agreement activities.

DOE applies for and receives utility rebates for energy efficient equipment installed during construction projects. DOE received a total rebate of \$30,973 for equipment installed in 2006, resulting in an annual kWh reduction of 308,443. DOE will continue to seek utility rebates for on-going project work and seek establishment of utility rebates for new energy efficient technologies.

DOH: Building 4 at Waimano Ridge has recently been retrofitted with T-8 lamps and electronic ballasts in conjunction with HECO's rebate program. Mechanical and electrical equipment purchases are coordinated by the CIP office. It has been a standard practice to purchase energy efficient items. If any HECO programs are initiated in the future, the Department will apply for them. Programs will be instructed to purchase ENERGY STAR products.

DOT-Airports: Efficiency is always a major consideration for cooling towers, chillers and other HVAC equipment at all airports. All appliance specifications and purchases are required to be for energy efficient products such as ENERGY STAR, wherever available.

DOT-Harbors: Harbors will train staff on Life Cycle Cost Analyses and on available ENERGY STAR technologies, and will replace existing equipment with comparable ENERGY STAR equipment.

DOTAX: DOTAX will use life cycle costs to evaluate equipment procurements and will use utility rebates where available to reduce purchase and installation costs.

FTZ: FTZ had an ENERGY STAR copy machine installed last year and an energy efficient air conditioning unit installed in its new computer room this year. FTZ intends to purchase new energy-efficient computers for its staff later this year.

HCDA: HCDA has instructed property managers in projects where HCDA is the general partner to replace light fixtures with energy efficient fixtures.

HHFDC: Hawaii Housing Finance and Development Corporation (HHFDC) has incorporated by reference in its solicitations for Request For Proposals for affordable housing projects, the requirements of Act 96, Session Laws of Hawaii 2006 and the Governor's Directive No. 06-01, dated January 20, 2006, which requires the following to the extent possible: design buildings for LEED certifications; incorporate energy efficiency measures into residential structures of one to three stories to minimize heat gain and cool air loss; incorporate design features to conserve energy and water; implement water and energy efficiency practices in operations to reduce waste and increase conservation; incorporate principles of waste minimization and pollution prevention; use life cycle cost-benefit analysis to purchase energy-efficient equipment; and procure environmentally preferable products. HHFDC will procure energy efficient equipment such as ENERGY STAR products and use utility rebates where available to reduce purchase and installation costs.

HHSC: Hawaii Health Systems Corporation will incorporate in its procurement process the acquisition of

ENERGY STAR products and other energy saving equipment.

HSPLS: HSPLS has already included these ENERGY STAR products on our internal supply lists and has incorporated compact fluorescent bulbs into incandescent fixtures to improve energy efficiency and reduce the workload of constantly changing the older, shorter life bulbs.

HTA-CC: Currently, the Hawaii Convention Center continues to purchase only ENERGY STAR products when available. Additionally, lighting and air conditioning loads are managed through a newly installed Energy Management System provided by Automated Logic, a unit of United Technology Corporation. Metal halide fixtures located in the exhibition hall are being evaluated; they may be replaced with a new technology that will qualify toward LEED Certification and consume far less energy as part of a CIP project. Fluorescent lighting in the ballroom is being reviewed and may be replaced with fiber optic lighting to save energy and replacement costs. Currently, there is a substantial amount of T-12 fluorescent lighting that operates on a 24/7 basis in the fire stairwell. This is being scheduled to be replaced with a combination light: a high-efficiency T-8 fluorescent that is activated by a motion detector which only operates when someone is walking down the corridors, and a cathode light that will use 1 watt of electricity and will operate 24/7 to provide the minimum light required by fire code. The administrative areas will be refit with new energy efficient T-8 bulbs and ballasts.

NELHA: These steps have been taken by NELHA for many years. Unfortunately, the cost of ENERGY STAR products, if they have to go through the DBEDT IT department for approval because they might involve some type of computer or intelligence, do end up costing substantially more than they should and therefore drastically alter the life cycle cost-benefit ratio. For example, purchasing and installing remote reporting devices at our three widely separated pumping stations, because they are considered telecommunication devices, will cost nearly double the list price due to having to do the massive paperwork required for their purchase and that paperwork having to be touched by three different sets of hands at NELHA before it goes to DBEDT for approval.

PSD: PSD requires DAGS-Division of Public Works and the projects' consultants to plan and design new building operating systems that incorporate energy efficient equipment and products. Rebate options are considered when available. Accordingly, due to unverified system efficiencies, PSD has taken the position of accepting only independently documented efficiency claims and requiring consultants to provide design solutions incorporating this requirement of the manufacturers.

UH: System wide, in all new and major renovation projects, a life cycle cost-benefit analysis for mechanical and electrical systems are included in the basis of design report. Campuses continue to work with the local electric companies in their rebate program to purchase energy efficient air-conditioning and lighting through the campuses' repair and maintenance programs.

The University of Hawaii will continue to apply the LEED rating system wide in all Capital Improvement Program new and major renovation projects. The University continues to purchase ENERGY STAR products from the SPO vendor lists for copier and facsimile machines and personal computers and printers.

UH Hilo continues to work with HELCO on energy efficient air-conditioning and light fixtures on all renovation and new projects and replacement equipment. A new renovation project will link most exterior lighting to a computerized scheduling program to ensure that lights are on when needed and off when not needed, to save energy.

(7) Procure environmentally preferable products, including recycled and recycled-content, bio-based, and other resource-efficient products and materials.

AG: Recycled paper is required, unless previously approved by the Administrative Services Office. Staff are aware of the policy to utilize environmentally friendly products; however, there is minimal use of hazardous materials within the department.

B&F: The department currently purchases environmentally preferred products as contained in the SPO price lists.

DAGS: In FY2006-2007, DAGS-Central Services Division (CSD) staff started field testing custodial cleaning products that are environmentally friendly. The goal for FY2006-2007 was to increase the use of such products by 70%. DAGS also researched the availability of environmentally friendly products for landscape maintenance application and continued to purchase paper and other products that are recycled or have a recycled content whenever such products are available.

The State Procurement Office (SPO) continues to provide to Executive Departments and other jurisdictions, including the counties, the SPO Price and Vendor List utilizing ENERGY STAR, recycled, or environmentally preferred products (EPP). Prior to re-solicitation for new contract terms, assessments of current contract specifications and review of market availability are conducted to ensure energy efficient products and supplies are made available through the SPO Price and Vendor lists. For products and supplies not covered by SPO Price and Vendor list, purchasing agencies are required to utilize the following preferences: Recycled Products, oil products with greater recycled content, and biofuel products.

DAGS' overall strategy is to integrate Green Seal or equal certification into the DAGS-CSD custodial program, and to continue to purchase paper and other products that are recycled or have a recycled content whenever such products are available.

DBEDT: Most of DBEDT's energy-related work is supported by Federal funds, often the result of winning nationwide competitive grant solicitations.

DBEDT procured office and copy paper with 35% post-consumer recycled content.

DBEDT provided input into the EPP Survey sent out by DOH and DAGS SPO in August 2007 to assess the FY07 environmental purchasing efforts of the state agencies. Results from the DOH and DAGS SPO survey are expected in late 2007.

DBEDT coordinated the 2007 Build & Buy Green Conference & Expo at the Hawaii Convention Center, attended by about 600 people, including over 100 from state agencies. Environmentally preferred purchasing practices, including recycled, bio-based, and other resource-efficient products and materials, were discussed at length as a means of achieving Hawaii BuiltGreen™ 3-Star Level.

DBEDT continues to work with the State Departments of Accounting and General Services (DAGS) and Health (DOH), the University of Hawaii at Manoa, and other agencies to expand the state's buy-recycled purchasing efforts and examine opportunities to purchase other environmentally-preferable products. DBEDT developed the following in support of the Environmentally Preferable

Purchasing (EPP) - Resources, Outreach, and Technical Assistance Project :

- List of EP Products available in Hawaii - webpage and publication
- Fact Sheets on Federal Executive Orders, Hawaii Statutes and Resources - webpage and publication
- Case Study of Successful EPP Efforts - webpage and publication
- Evaluation and Report of present procurement practices and procedures
- Recommendations regarding procedural, specs, bid requests, etc., guidance to address EPP concerns
- Review and follow-up of technical assistance with summary of impact and degree of change in agency procurement practice as a result of the technical assistance

DBEDT executed a letter of agreement with Envirospec in support of a green cleaning pilot project in with State of Hawaii agencies. Part of this project will involve identifying environmentally preferable, yet equally effective, cleaning projects which can be added to the State Procurement Office list and made available for purchase by all agencies. Sites for this project will be coordinated and selected with the Department of Education and the University of Hawaii.

Summary Report of EPP Technical Assistance and Buy Recycled Results: The results of the EPP Survey for FY2006 revealed that state and county government agencies spent approximately \$2,671,000 on recycled content products, and that 84% of office paper purchased contained recycled content. The purchase of recycled office paper by state agencies alone resulted in environmental savings of: 1,725,198 gallons of water, 961,442 kilowatt-hours of electricity, and 524,315 pounds of air pollution.

DBEDT provided training and speakers for the UH Manoa Sustainable Saunders Earth Day Celebration. Sustainable Saunders promotes energy efficiency measures and the purchase of recycled materials.

DCCA: DCCA purchases recycled paper products when available on and off the bid list.

DHHL: When available, the department shall choose environmentally-friendly products and materials.

DHRD: The department purchases environmentally preferable products as contained in the State Procurement Office price/vendor lists. Office paper and supplies (manila folders, calendar refills, envelopes), and plastic disposable bags are examples of items purchased that have recycled content.

DHS: DHS continues to coordinate with the State Procurement Office (SPO) to ensure that price list products satisfy environmentally preferable product requirements.

DLIR: The DLIR policy is to mandate the purchase of recycled paper and to utilize the State Procurement Offices Price List (SPO PL) for all purchases where products are available through the SPO PL. DLIR will also issue a departmental instructional memo to insure conformance with the results of the EPP Survey; this memo will be included in the procurement policy.

DLNR: DLNR encourages the use of recycled products with contractors. DLNR also adheres to the allowed 10% price preference for bids using recycled products in accordance with Section 103D-1005, Hawaii Revised Statutes. The Kahoolawe Island Reserve Commission (KIRC) is in the process of converting all of their paper goods, specifically paper “china,” to biodegradable products. The Division of Aquatic Resources (DAR) purchases and uses biodegradable soaps. In particular, DAR uses these products in the Northwest Hawaiian Islands, where there are strict policies on this and any other discharge of durable wastes.

DOA: DOA finalized and issued the department’s Energy and Water Conservation and Resource Efficiency Program which provides policies, guidelines and practices with the goals of minimizing energy, fuel and water consumption and implementing resource-efficient operations, including promoting the 4 Rs – reduce, recycle, reuse and re-buy – and encouraging use of the Department of Business, Economic Development, and Tourism’s Environmental Product Guide which lists environmentally preferred products. The department also developed a spreadsheet to compare data from the EPP Survey conducted in FY2002, FY2004 and FY2006 on recycled and non-recycled content products purchased during those years. Distributed data to programs managers for their review and information.

DOE: New schools are planned to meet LEED Silver requirements, which should incorporate the use of environmentally preferable products including recycled and recycled-content, bio-based, and other resource-efficient products and materials. Our Procurement and Contracts Branch will include environmentally preferable specifications where appropriate.

DOH: Presently, the Department has not addressed this issue except through state sponsored programs. Programs will be advised to purchase these products, provided they are not mandated to purchase specific items from the statewide bid list.

DOT-Airports: Airport staff purchase products through the state procurement system, but will consider green products first. DOT-Airports staff have just been introduced to “Green Seal” products. Staff are reviewing the Division’s current cleaning products and considering options for the supplier to provide green cleaning products.

DOT-Harbors: Harbors will implement this procurement practice and develop program milestones to encourage 100% implementation over a period of time.

DOTAX: DOTAX will coordinate with the State Procurement Office in the purchase of environmentally preferable products including recycled and recycled-content, bio-based, and other resource-efficient products and materials.

FTZ: All paper products, including copier paper, bond paper, paper towels, toilet paper, and so forth, are purchased through the State Bid List.

HCDA: HCDA has utilized cold plane to minimize need for weed eradication on the Historic Pump Station lot.

HHFDC: Hawaii Housing Finance and Development Corporation (HHFDC) has incorporated by reference in its solicitations for Request For Proposals for affordable housing projects, the requirements of Act 96, Session Laws of Hawaii 2006 and the Governor’s Directive No. 06-01, dated January 20, 2006, which requires the following to the extent possible: design buildings for LEED certifications; incorporate energy efficiency measures into residential structures of one to three stories to minimize heat gain and cool air loss; incorporate design features to conserve energy and water; implement water and energy efficiency practices in operations to reduce waste and increase conservation; incorporate principles of waste minimization and pollution prevention; use life cycle cost-benefit analysis to purchase energy-efficient equipment; and procure environmentally preferable products. HHFDC will also purchase environmentally preferable products where applicable. HHFDC will also include preferences for recycled-material in its competitive bid contracts.

HHSC: Hawaii Health Systems Corporation will incorporate in its procurement process the acquisition of

environmentally preferable products.

HSPLS: HSPLS continues to procure these types of products wherever practical and cost effective, and have included them in supply lists for the libraries.

HTA-CC: The Hawai'i Convention Center mandates that all of its procurement of expendable products must give preference to recycled and environmentally friendly products at all times. HTA currently uses recycled napkins and cups and is currently looking into many other products that can be introduced to Convention Center clients.

NELHA: NELHA has instituted environmentally preferable purchasing for many years. NELHA personnel are extremely environmentally conscious and personally highly motivated to contribute to a better environment. Staff is even investigating the feasibility under the procurement code of recycling and refilling our printer cartridges. NELHA encourages staff to re-use paper by printing on the backside of previously printed paper for draft reports and similar methods. NELHA is also looking at purchasing biodiesel to run its fleet of trucks and electrical generators, although the biodiesel may be quite a bit more expensive in the large quantities NELHA requires.

PSD: The department utilizes the price lists and vendor lists as issued by the State Procurement Office, as applicable. When applicable, solicitations for goods and services will incorporate the state's preference for environmentally preferable products.

UH: LEED (Leadership in Energy & Environmental Design) requirements are included in all new construction projects. The University continues to participate in various SPO price and vendor lists that include recycled products, and also in the SPO price list for bulk gasoline and gas credit card services. The University is a participant in the WSCA Industrial Supplies vendor list from which many environmentally preferable products have been purchased. All Invitations for Bids issued by the University of Hawaii include a Recycled Products Preference (Reference: Section 103D-1005, HRS, and Subchapter 4, Chapter 3-124, HAR).

Act 96 SLH 2006: Transportation Vehicles and Fuel

(1) Comply with Title 10, Code of Federal Regulations, Part 490, Subpart C, “Mandatory State Fleet Program”, if applicable;

AG: Not applicable. AG does not have a fleet.

B&F: Not applicable to B&F.

DAGS: Agencies must be accountable to the federal government. DAGS-Automotive Management Division (AMD) has determined that it is in compliance with the federal requirement by purchasing only new alternative fuel vehicles. Vehicle purchases conducted by SPO continue to comply with 10 CFR, Part 490, on alternative fuel E-85 vehicles.

DBEDT: Does not apply. DBEDT does not have a “covered fleet.”

DCCA: Not applicable. DCCA does not own any vehicles.

DHHL: DHHL is already in compliance and will continue to comply with Title 10 regarding Mandatory State Fleet Program.

DHRD: Not applicable. The department does not have any transportation vehicles.

DHS: DHS continues to coordinate with the DAGS-Automotive Management Division (AMD) to ensure that vehicle purchases comply with the applicable requirements.

DLIR: DLIR currently owns two gas engine-operated vehicles and is not required to comply with Title 10, Code of Federal Regulations.

DLNR: Federal regulations not currently applicable to DLNR.

DOA: The department is in compliance with Title 10, Code of Federal Regulations.

DOE: DOE has organized its fleet program by Complex-Areas and Offices. Based on this organization, only the Office of Business Services is designated as a “covered fleet.”

DOH: The programs are in compliance.

DOT-Airports: Airports Division is a covered fleet under this CFR. The Division has been and is still in total compliance with the federal law.

DOT-Harbors: Harbors needs to do more research and develop an implementation plan.

DOTAX: DOTAX does not have a fleet of thirty vehicles or more.

FTZ: Not applicable. State of Hawaii is responsible for developing a “Mandatory State Fleet Program.”

HCDA: Not applicable. HCDA does not operate a “covered fleet.”

HHFDC: Not applicable. HHFDC does not have a “covered fleet.”

HHSC: In compliance with Title 10, when purchasing new vehicles through DAGS, energy efficient models (such as hybrids and four cylinder models) will be acquired whenever possible.

HSPLS: HSPLS will continue to consult with DAGS Procurement staff to ensure compliance with the referenced regulations.

HTA-CC: Not applicable. HTA does not maintain a fleet of 30+ vehicles as specified in the above Act 96, SLH 2006.

NELHA: NELHA does not have funding to replace its ancient diesel trucks. To the extent possible (two vehicles), NELHA has updated the fleet (the youngest of which was a 1995 gasoline-powered truck) with a 2005 and a 2006 gasoline-powered vehicle. However, it should be noted that as an operating entity, NELHA has need of heavy equipment, most of which is not yet even manufactured to meet the above specifications and would, if available, be very cost-prohibitive to purchase, especially as only Special Funds may be used and these must be conserved to continue subsidizing the actual cost of producing water for aquaculture tenants. Agricultural tenants pay the operating cost of the seawater delivered to them, but not the capital replacement cost, which means that NELHA must accumulate \$50 to \$100 million to replace its pipes when they wear out.

PSD: The Divisions of Corrections, Sheriffs and Narcotic Enforcement are exempt from Title 10, Code of Federal Regulations, Part 490.

UH: University of Hawaii Transportation Services is currently in compliance.

(2) Comply with all applicable state laws regarding vehicle purchases;

AG: Not applicable. AG does not purchase vehicles.

B&F: Not applicable to B&F.

DAGS: Agencies now have the oversight of the AMD and SPO when making any vehicle purchase through the SPO. However, if vehicles are purchased by the agency, oversight by the AMD and SPO will not be possible. Since agencies will have the opportunity to purchase vehicles without review by AMD and SPO, the Administrative Services Offices of agencies and the Department of Budget and Finance can provide oversight. To facilitate this, Procurement Directive 2006-02, dated October 23, 2006, was issued to the various Chief Procurement Officers for their jurisdictions, and Procurement Circular 2006-07, dated October 24, 2006, was issued to Executive Department Heads, to distribute The Departmental Guidelines for Acquisition of New Vehicles and amended administrative rules relating to the requirements of Act 96/2006. DBEDT, cooperatively with DAGS-AMD and SPO, developed and issued the guidelines for all purchasing agencies for vehicle purchases.

DBEDT: All vehicle purchases will comply with applicable laws. Vehicle purchases by attached agencies are included in those agencies' reports. No other vehicles were purchased during the year.

DCCA: DCCA does not plan on purchasing any vehicles.

DHHL: DHHL complies with all applicable state laws regarding vehicle purchases. In addition to price, the department also takes into consideration fuel efficiency, or even opts for hybrid vehicles.

DHRD: Not applicable. The department does not have any transportation vehicles.

DHS: DHS continues to coordinate with AMD to ensure that vehicle purchases comply with the applicable requirements.

DLIR: DLIR owns the following vehicles: 1999 Ford Windstar, 1994 Chevrolet Astrovan. DLIR does not have immediate plans to purchase another vehicle in the near future; however, the DLIR will adhere to the applicable state laws regarding vehicle purchases.

DLNR: DLNR will continue to work with the Department of Business, Economic Development, and Tourism (DBEDT) in a statewide collaboration on energy efficiency, as a member of DBEDT's Lead by Example Leadership Group. DLNR continues to seek the advice of other state agencies through DBEDT's Lead by Example Leadership Group and will implement internal procedures as appropriate.

DOA: The department is in compliance with all applicable state laws.

DOE: DOE is complying with all state laws regarding vehicle purchases through our procurement and contracts branch.

DOH: The programs are in compliance.

DOT-Airports: The Airports Division is in compliance.

DOT-Harbors: Harbors needs to do more research and develop an implementation plan.

DOTAX: DOTAX will comply with all applicable state laws regarding vehicle purchases.

FTZ: Not applicable. FTZ is not contemplating the purchase of any vehicles in the near future.

HCDA: Not applicable. HCDA's two vehicles are procured and maintained by Department of Accounting and General Services (DAGS).

HHFDC: Not applicable. HHFDC does not have a "covered fleet."

HHSC: HHSC is in compliance with all state laws regarding vehicle purchases and will continue to comply with all applicable state laws.

HSPLS: HSPLS works directly with DAGS Procurement to ensure compliance with bidding procedures and processes.

HTA-CC: Not applicable. HTA has one vehicle procured and maintained by DAGS; the Hawaii Convention Center (HCC) has three vehicles that were procured as part of outfitting the building in 1997 which are registered by the State of Hawai'i and are maintained to the manufacturer's suggested specifications.

NELHA: Both vehicles have been purchased in compliance with state laws. When NELHA purchases any operating vehicles, DAGS, SPO, DBEDT, etc. are consulted to ascertain the very latest requirements and procedures that must be used, thus saving personnel time and cost.

PSD: While the Divisions of Corrections, Sheriffs and Narcotic Enforcement are exempt from Title 10, Code of Federal Regulations, Part 490, PSD has issued an inter-office memorandum on August 16, 2006 from the Interim Director, regarding the department's compliance to Comptroller's Memo No. 2005-13 and the reporting requirements of Act 96, SLH 2006, A(c)(8) and (9).

UH: University of Hawaii Transportation Services is currently in procurement compliance.

- (3) Once federal and state vehicle purchase mandates have been satisfied, purchase the most fuel-efficient vehicles that meet the needs of their programs; provided that life cycle cost-benefit analysis of vehicle purchases shall include projected fuel costs;

AG: Not applicable. AG does not have a fleet or purchase fuel.

B&F: Not applicable to B&F.

DAGS: The AMD and SPO review will provide an opportunity to comply with the policy to procure the most fuel-efficient vehicles. This review will mandate agencies to comply with the new law. Once legal mandates have been satisfied, agencies may carefully evaluate their fleets and procure additional energy-efficient vehicles to meet their needs.

DBEDT: Vehicle purchases by attached agencies are included in those agencies' reports. No other vehicles were purchased during the year.

DCCA: DCCA does not own any vehicles.

DHHL: The department shall consider all aspects such as fuel consumption, capacity and need, in addition to price, to reach a decision on the purchase.

DHRD: Not applicable. The department does not purchase transportation vehicles at this time.

DHS: DHS continues to coordinate with AMD and SPO to ensure that vehicle purchases meet fuel efficiency requirements in relation to operational needs.

DLIR: DLIR's two vehicles are in sound operational condition, and thus DLIR has no plan to replace the vehicles in the near future. Prior to purchasing a vehicle in the future, DLIR will insure that any vehicle purchase satisfies federal and state mandates. In addition, DLIR will purchase the most fuel-efficient vehicle that meets the needs of our program.

DLNR: DLNR will continue to work with the Department of Business, Economic Development, and Tourism (DBEDT) in a statewide collaboration on energy efficiency, as a member of DBEDT's Lead by Example Leadership Group. DLNR continues to seek the advice of other state agencies through DBEDT's Lead by Example Leadership Group and will implement internal procedures as appropriate.

DOA: Finalized and issued the department's Energy and Water Conservation and Resource Efficiency Program which provides policies, guidelines and practices with the goal of minimizing energy, fuel and water consumption and implementing resource-efficient operations, including purchasing the most fuel efficient vehicle that meets the needs of the program once federal and state vehicle purchase mandates have been met.

DOE: DOE is complying with state laws regarding vehicle purchases through our procurement /contracts branch.

DOH: This policy is not in effect. The programs will be advised of this strategy.

DOT-Airports: All of the Division's vehicles not covered under EPACT have specifications to meet the performance requirements of the job as well as attain the most efficient fuel use and life cycle fuel cost.

DOT-Harbors: Harbors needs to do more research and develop an implementation plan.

DOTAX: DOTAX will purchase the most fuel-efficient vehicle that meets the needs of its programs and will include a life cycle cost-benefit analysis, including projected fuel costs, in vehicle procurements.

FTZ: Not applicable. FTZ is not contemplating the purchase of any vehicles in the near future.

HCDA: Not applicable. HCDA's two vehicles are procured and maintained by Department of Accounting and General Services (DAGS).

HHFDC: Not applicable. HHFDC does not have a "covered fleet."

HHSC: HHSC continues to purchase the most fuel efficient vehicles whenever possible.

HSPLS: HSPLS will incorporate projected fuel cost analysis based on the cost of regular unleaded fuel as approved under bid contract. Life of the vehicle will be estimated factoring the DAGS vehicle replacement guidelines (100,000 miles and/or 10 years). Fuel efficiency will be cross-referenced with performance statistics of bid vehicles to ensure the best weight/hauling efficiency for the anticipated load capacities of the vehicle.

HTA-CC: Not applicable. HTA has one vehicle procured and maintained by DAGS; the Hawaii Convention Center (HCC) has three vehicles that were procured as part of outfitting the building in 1997 which are registered by the State of Hawai'i and are maintained to the manufacturer's suggested specifications.

NELHA: When NELHA purchases any operating vehicles, DAGS, SPO, DBEDT, etc. are consulted to ascertain the very latest requirements and procedures that must be used, thus saving personnel time and cost.

PSD: Purchasing many law enforcement vehicles has been limited by the engine and fuel options available. PSD is planning to issue a consolidated vehicle solicitation where fuel economy and life-cycle costing will be part of the evaluation.

UH: UH Transportation Services reviews all vehicle purchases for appropriateness and keeps historical information on all vehicles assigned to the Transportation Services Fleet. Individual departments keep their own vehicle records pertaining to department-owned vehicles. A life cycle cost-benefit analysis is being done on fleet

vehicles, and vehicle fuel consumption is being tracked. UH will develop a web-based program to record and compile individual vehicle data during the current fiscal year. The program must allow departments that own vehicles the ability to enter their program's vehicle data via the web. The web will collect data for analysis to determine life cycle cost-benefit and fuel efficiency; providing historical reference for future purchase

(4) Purchase alternative fuels and ethanol blended gasoline when available;

AG: Not applicable. AG does not purchase fuel.

B&F: Not applicable to B&F.

DAGS: State procurement contracts include the purchase of ethanol-blended gasoline. SPO will procure alternative fuels when such fuels are available. Agencies must prepare for the use of alternate fuels. Covered fleets have vehicles ready to use E-85 gasoline.

DBEDT: DBEDT intends to purchase alternative fuels and ethanol blended gasoline when available.

DCCA: DCCA does not own any vehicles.

DHHL: SPO-PL 07-06 provides that all gasoline provided by DAGS is blended with 10% ethanol. The department also purchases gasoline from Tesoro Petroleum. Tesoro stations in the State of Hawaii use gasoline which is blended with 10% ethanol. The department shall continue to use these vendors for gasoline to fuel vehicles.

DHRD: Not applicable. The department does not purchase transportation fuels.

DHS: DHS continues to coordinate with SPO on purchasing alternative fuels from established price lists.

DLIR: The assessment performed by DLIR indicates that all alternative fuels were purchased from DAGS Automotive Management Division. The DAGS Automotive Management motor pool alternative fuel meets the alternative fuel ethanol blend requirement.

DLNR: DLNR purchases fuel from vendors as selected by the State Procurement Office in compliance with the Procurement Code. DLNR continues to seek the advice of other state agencies through DBEDT's Lead by Example Leadership Group and will implement internal procedures as appropriate.

DOA: Finalized and issued the department's Energy and Water Conservation and Resource Efficiency Program which provides policies, guidelines and practices with the goal of minimizing energy, fuel and water consumption and implementing resource-efficient operations, including the purchase of alternative fuels and ethanol blended gasoline when available.

DOE: For light duty vehicles, only ethanol-blended gasoline currently available. For DOE's diesel fuel vehicles, biodiesel fuel is being considered where practical.

DOH: The programs are mandated to purchase gasoline from Tesoro, which has a contract with the state.

DOT-Airports: All of DOT-Airport's baseyard refueling tanks carry the SPO Price List fuels. At present, that is E-10 Unleaded regular gas. DOT-Airports has been contacted by a fuel company regarding a count of the Division's E-85 capable vehicles, which may be a factor in locating their new E-85 station fuel pumps in proximity to the Division's fleet. DOT-Airports uses the "fueleconomy.gov" guidelines for reference regarding the fuel economy of vehicles.

DOT-Harbors: Harbors will purchase environmentally preferable fuels when available and practical.

DOTAX: DOTAX purchases ethanol blended gasoline.

FTZ: FTZ purchases fuels from DAGS' automotive division.

HCDA: Not applicable. HCDA refuels at DAGS' central motor pool.

HHFDC: Not applicable. HHFDC does not have a "covered fleet."

HHSC: All HHSC facilities are using ethanol-blended gasoline.

HSPLS: HSPLS currently uses vehicles that are able to utilize the current ethanol/gasoline blended, regular-unleaded fuel as designated under the state contract with Tesoro and Kauai Fuels.

HTA-CC: Not applicable. HTA refuels at DAGS' central motor pool and HCC refuels exclusively at Tesoro where ethanol blended gasoline is available.

NELHA: Ethanol blended gasoline is the only gasoline available on this island. There are no alternative diesel type fuels available on this island. However, NELHA is looking at purchasing biodiesel from one of our tenants who claims it will be manufacturing it in the near future in great quantities.

PSD: When/if applicable, PSD will purchase vehicles capable of using alternative or ethanol blended gasoline.

UH: UH Transportation Services does not purchase biodiesel; E-85 ethanol blended fuel will be purchased when available. An evaluation is currently being undertaken to assess the feasibility of converting to biodiesel fuel. Transportation Services' diesel fuel supply is used to fuel emergency and portable generators through out the campus. Biodiesel may not be compatible with these types of equipment.

(5) Evaluate a purchase preference for biodiesel blends, as applicable to agencies with diesel fuel purchases;

Not applicable.

DAGS: This was superseded by Act 240 of 2006, which established a 5¢ per gallon preference for biodiesel. SPO is currently in the process of reviewing and drafting Hawaii Administrative Rules to implement the preference provided in Act 240/SLH 2006 on the requirement of biofuel.

(6) Promote efficient operation of vehicles;

AG: Not applicable. AG does not have a fleet.

B&F: Not applicable to B&F.

DAGS: Agencies can benefit by providing information to their personnel on improving mileage and keeping vehicles in good operating condition. DAGS provides guidelines in general operation of vehicles including the efficient use of vehicles. DAGS will have driving guidelines available to all motor vehicle operators.

Agencies may also require training of motor vehicle operators in efficient operation of vehicles.

DBEDT: Through the Lead By Example Transportation Working Group, DBEDT disseminated information to key transportation staff in state executive agencies on best practices in vehicle operation to maximize efficiency and economic/environmental benefits. DBEDT also purchased binders to be used as vehicle mileage logs. The logs will be distributed to all vehicles in executive agencies' fleets in FY08 and will assist in the implementation of the transportation data requirements of Act 96.

DCCA: DCCA does not own any vehicles.

DHHL: Driving and maintenance tips have been sent to each district office to post. On Oahu, driving tips are attached to vehicles' logs that go with the driver and vehicle.

DHRD: Not applicable. The department does not have any transportation vehicles.

DHS: DHS continues to coordinate with AMD in the issuance of vehicle operation procedures.

DLIR: The DLIR vehicles are serviced by the DAGS Automotive Management Division Motor Pool on a regular basis. Both of the DLIR vehicles are in sound condition and they operate at maximum efficiency. The vehicles' operational efficiency can be certified and recertified by the DAGS Automotive Management Division.

DLNR: DLNR encourages maintenance and regular service of vehicles. DLNR continues to seek the advice of other state agencies through DBEDT's Lead by Example Leadership Group and will implement internal procedures as appropriate.

DOA: Finalized and issued the department's Energy and Water Conservation and Resource Efficiency Program which provides policies, guidelines and practices with the goal of minimizing energy, fuel and water consumption and implementing resource-efficient operations, including tips on efficient operation of vehicles.

DOE: DOE is still in the process of developing a fuel efficiency program.

DOH: This policy is not in effect. The programs will be advised.

DOT-Airports: Operators are reminded of the economical operation issues of the vehicles at the baseyard or when signed out. When new guidelines are published, they are and will be distributed by memo to all sections.

DOT-Harbors: Harbors needs to do more research and develop an implementation plan.

DOTAX: DOTAX will promote efficient operation of vehicles through an educational campaign.

FTZ: FTZ does not have a formal program, but follows the state plan for efficient use of vehicles.

HCDA: HCDA encourages staff to walk to properties/appointments whenever possible.

HHFDC: Not applicable. HHFDC does not have a "covered fleet."

HHSC: HHSC facilities perform required maintenance of vehicles conforming to manufacturer recommendations.

HSPLS: HSPLS delivery and support staff currently follow service cycles for delivery vehicles based on the manufacturer's recommendations in the owner's manual.

HTA-CC: HTA encourages carpooling when using the State of Hawaii vehicle and HCC specifically logs all trips and mileage incurred by its three assigned vehicles.

NELHA: One of the strategies NELHA has implemented is having employees use their own vehicles for travel around NELHA, into town and back on business, and so forth. This eliminates the use of state vehicles and saves money as we have found most are not willing to fill out the necessary paperwork to get reimbursement for their travels. Our CEO travels 5,000 to 8,000 miles per year on NELHA business this way, for example. When it comes to work vehicular use, we encourage the use of solar-powered golf carts whenever possible. Use of trucks is encouraged only when long trips to Gateway or the 55" pump station are required or heavy equipment parts need to be transported. The solar-powered golf carts are not adequate for these types of trips. When trucks are used, we ask that as many people fit into the cab of the truck as there are seatbelts, thus saving on multiple vehicular use to the greatest extent possible.

PSD: PSD has issued an inter-office memorandum on August 16, 2006 by the Interim Director addressing the department's compliance with Comptroller's Memo No. 2005-13 and the requirements of Act 96, SLH 2006, A(c)(6) in adopting the September 2005 guidelines of the Federal Trade Commission, entitled "Good, Better, Best: How to Improve Gas Mileage."

UH: Informational brochures on the efficient operation of vehicles are being developed. UH will distribute literature and post information on the web this year.

- 7) Use the most appropriate minimum octane fuel; provided that vehicles shall use 87-octane fuel unless the owner's manual for the vehicle states otherwise or the engine experiences knocking or pinging;

AG: Not applicable. AG does not purchase fuel.

B&F: Not applicable to B&F.

DAGS: Agencies can benefit by providing information to their personnel on improving mileage and keeping vehicles in good operating condition. DAGS provides guidelines in general operation of vehicles including the efficient use of vehicles. DAGS will have driving guidelines available to all motor vehicle operators. Agencies may also require training of motor vehicle operators in efficient operation of vehicles.

DBEDT: DBEDT has not purchased vehicles.

DCCA: DCCA does not own any vehicles.

DHHL: All but two of the department's vehicles use 87-octane gasoline. The two vehicles that do not use gasoline (cargo and dump truck) use diesel fuel. Please see Appendix 1.

DHRD: Not applicable. The department does not have any transportation vehicles.

DHS: DHS continues the implementation of the present policy requiring the use of 87-octane fuel.

DLIR: The DLIR vehicles are refueled at the DAGS Automotive Management Division Motor Pool. Neither DLIR vehicle has experienced problems with knocking or pinging.

DLNR: DLNR is in compliance with State Procurement Office bid list rules as stated above. DLNR continues to seek the advice of other state agencies through DBEDT's Lead by Example Leadership Group and will implement internal procedures as appropriate.

DOA: Finalized and issued the department's Energy and Water Conservation and Resource Efficiency Program which provides policies, guidelines and practices with the goal of minimizing energy, fuel and water consumption and implementing resource-efficient operations, including using 87-octane fuel unless the owner's manual for the vehicle states otherwise or the engine experiences knocking or pinging.

DOE: DOE requires all vehicles to use the 87-octane fuel unless the engine experiences knocking or pinging, at which time it is permissible to use 92-octane fuel.

DOH: The programs are mandated to purchase specific octane fuel from Tesoro, which has a contract with the state.

DOT-Airports: The Airports Division doesn't have an Exemption Request at the SPO for the use of other fuels. The Division complies with the SPO listed fuels.

DOT-Harbors: Harbors will purchase environmentally preferable fuels when available and practical.

DOTAX: DOTAX uses the most appropriate minimum octane fuel, provided that vehicles shall use 87-octane fuel unless the owner's manual for the vehicle states otherwise or the engine experiences knocking or pinging.

FTZ: FTZ purchases fuels from DAGS' automotive division.

HCDA: HCDA complies by refueling at DAGS' central motor pool.

HHFDC: Not applicable. HHFDC does not have a "covered fleet."

HHSC: Under the state contract, all HHSC vehicles are filled with 87-octane, 10% ethanol blended gasoline.

HSPLS: HSPLS is in compliance.

HTA-CC: Both HTA and HCC comply with the above requirement.

NELHA: NELHA has no vehicles that require higher than 87-octane gasoline or 45-cetane diesel fuel. None of our diesel trucks can pass vehicle safety checks so are not authorized for use on state or county roads. Our diesel electric generators are stationary units; this, along with the truck situation, means that NELHA purchases off-road diesel, saving a considerable sum as a result.

PSD: As stated in Item (6), above, the Department of Public Safety's inter-office memorandum of August 16, 2006 refers to the adherence to Comptroller's Memo 2005-13 in order to comply with Act 96, SLH 2006, A(c)(7) and state policy.

UH: UH Transportation Services is in compliance.

(8) Beginning with fiscal year **2005-2006** as the baseline, collect and maintain, for the life of each vehicle acquired, the following data:

(A) Vehicle acquisition cost;

AG: Not applicable. AG does not purchase vehicles.

B&F: Not applicable to B&F.

DAGS: DAGS has this information on file for its vehicles and will continue to keep accurate records.

DBEDT: Vehicle purchases by attached agencies are included in those agencies' reports. No other vehicles were purchased during the year.

DCCA: DCCA does not own any vehicles.

DHHL: Please see Appendix 1 for full listing.

DHRD: Not applicable. The department does not have any transportation vehicles.

DHS: DHS maintains the vehicle acquisition cost in the fixed asset inventory system.

DLIR: 1999 Ford Windstar acquired on 1-23-01 for \$17,500.00; 1994 Chevrolet Astrovan acquired on 5-3-01 for \$5,900.00.

DLNR: DLNR has a department-wide database that captures vehicle acquisition cost and is developing a program to track vehicle expenses and energy consumption for all cars in the department's inventory. Additionally, DLNR continues to seek the advice of other state agencies through DBEDT's Lead by Example Leadership Group and will implement internal procedures as appropriate.

DOA: DOA is capturing and maintaining vehicle acquisition costs for all new and existing vehicles in the department's Automotive Management System.

DOE: DOE has developed a database to track all vehicle acquisitions that will enable the collection and maintenance of these data.

DOH: These data are not available in one central file. Each program maintains its own records. Presently the Department has over 40 programs at 80 facilities throughout the state. A database must be created for the individual programs to input the information requested. This database should be web accessible.

DOT-Airports: Please see Appendix 4.

DOT-Harbors: Please see Appendix 5.

DOTAX: DOTAX will comply for each vehicle acquired beginning fiscal year 2005-2006.

FTZ: Not applicable. No vehicle was purchased in FY 2005-2006 and there is no intent to purchase any vehicle in the foreseeable future.

HCDA: Not applicable. Vehicles are maintained by DAGS.

HHFDC: Not applicable. HHFDC does not have a "covered fleet."

HHSC:

(Maluhia) 2000 Dodge Stratus - \$4,500

(Maluhia) 2002 Dodge Stratus - \$7,200

(Maluhia) 2004 Dodge Stratus - \$6,500

(Hilo) 2002 Gold Alero - \$6,200

(Hilo) 2002 Silver Alero - \$6,200

(Hilo) 2002 Green Alero - \$6,200

(Leahi) 2001 Dodge Stratus - \$5,200

(Leahi) 2001 Dodge Stratus - \$5,000

HSPLS: Three 2006 Ford Cargo Vans; \$56,524.56. The major function of our delivery vans is to transport library books, materials, and supplies to each of our 51 public library branches, statewide. In addition to fuel efficiency, we needed to consider load capacity, reliability, safety, and costs in selecting this particular model and type of delivery van.

HTA-CC: HTA complies.

NELHA:

2005 Chevrolet ¾ ton pickup truck: \$20,390.00

2006 Chevrolet ¾ ton pickup truck: \$22,245.00

NELHA VEHICLE INVENTORY AND FUEL ECONOMY

Make: Chevy (Cost @ \$22,500)	Year: 2007	Model: Pick-up
Description: 1500 Silverado 4WD	Color: White	
Vin # 1GCEK14C97Z526482	License # C666	State I.D. #
Engine Type: 4.8 LITERV8		

Date	Mileage	Date	Mileage	Total Miles	Avg. Miles per Gallon
02/020/07	121	09/11/07	4058	3937	13.4

Make: Chevy (Cost @ \$20,390)	Year: 2006	Model: Pick-up
Description: 1500 Silverado 4WD	Color: White	
Vin # 3GCEK14V56G159435	License # C202	State I.D. #
Engine Type: 4.8 LITERV8		

Date	Mileage	Date	Mileage	Total Miles	Avg. Miles per Gallon
02/13/07	5748	09/13/07	8940	3192	14.0

Make: Chevy (Cost @ \$00)	Year: 1994	Model: Lumina Van
Description: 7 Passenger Van	Color: WHT	
Vin # 1GNDUGL2RT158012	License # A540	State I.D. #
Engine Type: 3.8 L V-6 GAS		

Date	Mileage	Date	Mileage	Total Miles	Avg. Miles per Gallon
03/06/07	93010	09/13/07	95180	2170	16

Make: Chevy (Cost \$12,500)	Year: 1992	Model: Pick-up
Description: ¾ Ton 4x2	Color: Tan	
Vin # 1GCF24K8N2198404	License # 6129	State I.D. #
Engine Type: 5.7 350 V-8 Gas		

Date	Mileage	Date	Mileage	Total Miles	Avg. Miles per Gallon
02/23/07	62915	9/25/07	65634	2719	13.5

PSD: FY06 information is attached. Please see Appendix 7. FY07 information is forthcoming.

UH: This information is recorded on department hard copy files. UH will convert hard copy data to computer file form during the current fiscal year to facilitate data analysis.

(B) United States Environmental Protection Agency rated fuel economy;

AG: Not applicable. AG does not have vehicles.

B&F: Not applicable to B&F.

DAGS: DAGS has this information on file for its vehicles and will continue to keep accurate records.

DBEDT: Vehicle purchases by attached agencies are included in those agencies' reports. No other vehicles were purchased during the year.

DCCA: DCCA does not own any vehicles.

DHHL: Please see Appendix 1 for full listing.

DHRD: Not applicable. The department does not have any transportation vehicles.

DHS: DHS continues to coordinate the issuance of applicable requirements with SPO.

DLIR: 1999 Ford Windstar: 17 mpg city and 23 mpg highway; 1994 Chevrolet Astrovan: 17 mpg city and 22 mpg highway.

DLNR: DLNR is developing a program to track vehicle expenses and energy consumption for all cars in the department's inventory. DLNR continues to seek the advice of other state agencies through DBEDT's Lead by Example Leadership Group and will implement internal procedures as appropriate.

DOA: DOA is capturing and maintaining U.S. EPA fuel economy rating for all new and existing vehicles in the department's Automotive Management System.

DOE: DOE has developed a database to track all vehicle acquisitions that will enable the collection and maintenance of these data.

DOH: These data are not available in one central file. Each program maintains its own records. Presently the Department has over 40 programs at 80 facilities throughout the state. A database must be created for the individual programs to input the information requested. This database should be web accessible.

DOT-Airports: Not in the present program.

DOT-Harbors: Please see Appendix 5.

DOTAX: DOTAX will comply for each vehicle acquired beginning fiscal year 2005-2006.

FTZ: Not applicable. No vehicle was purchased in FY 2005-2006 and there is no intent to purchase any vehicle in the foreseeable future.

HCDA: Not applicable: maintained by DAGS.

HHFDC: Not applicable. HHFDC does not have a "covered fleet."

HHSC:

- (Maluhia) 2000 Dodge Stratus – 19-27
- (Maluhia) 2002 Dodge Stratus – 21-28
- (Maluhia) 2004 Dodge Stratus – 20-28
- (Hilo) 2002 Gold Alero – 18-26
- (Hilo) 2002 Silver Alero – 18-26
- (Hilo) 2002 Green Alero – 18-26
- (Leahi) 2001 Dodge Stratus – 19-27
- (Leahi) 2001 Dodge Stratus – 19-27

HSPLS: 15 mpg city and 19 mpg highway driving.

HTA-CC: HTA complies.

NELHA: These data are not available.

PSD: FY06 information is attached. Please see Appendix 7. FY07 information is forthcoming.

UH: This information is not recorded in department files. UH will research and record information on department's record in computer file form, during the current fiscal year.

(C) Vehicle fuel configuration, such as gasoline, diesel, flex-fuel gasoline/E-85, and dedicated propane;

AG: Not applicable. AG does not have vehicles.

B&F: Not applicable to B&F.

DAGS: DAGS has this available for each vehicle and will continue to keep accurate records.

DBEDT: Vehicle purchases by attached agencies are included in those agencies' reports. No other vehicles were purchased during the year.

DCCA: DCCA does not own any vehicles.

DHHL: Please see Appendix 1.

DHRD: Not applicable. The department does not have any transportation vehicles.

DHS: DHS continues to coordinate the issuance of applicable requirements with AMD.

DLIR: 1999 Ford Windstar – Gasoline/E-85; 1994 Chevrolet Astrovan – Gasoline/E-85.

DLNR: DLNR is developing a program to track vehicle expenses and energy consumption for all cars in the department's inventory. DLNR continues to seek the advice of other state agencies through DBEDT's Lead by Example Leadership Group and will implement internal procedures as appropriate.

DOA: DOA is capturing and maintaining fuel configuration for all new and existing vehicles in the department's

Automotive Management System.

DOE: DOE has developed a database to track all vehicle acquisitions that will enable the collection and maintenance of these data.

DOH: These data are not available in one central file. Each program maintains its own records. Presently the Department has over 40 programs at 80 facilities throughout the state. A database must be created for the individual programs to input the information requested. This database should be web accessible.

DOT-Airports: Included in the present program.

DOT-Harbors: Please see Appendix 5.

DOTAX: DOTAX will comply for each vehicle acquired beginning fiscal year 2005-2006.

FTZ: Not applicable. No vehicle was purchased in FY 2005-2006 and there is no intent to purchase any vehicle in the foreseeable future.

HCDA: Not applicable. Vehicles are maintained by DAGS.

HHFDC: Not applicable. HHFDC does not have a "covered fleet."

HHSC: All the vehicles use regular gasoline.

HSPLS: All vehicles operate on current regular/E-85 gasoline.

HTA-CC: HTA complies.

NELHA: Refer to information given in (A), above.

PSD: See Appendix 7 for the vehicle fuel configuration.

UH: This information is recorded on department hard copy files. UH will convert hard copy data to computer file form during the current fiscal year to facilitate data analysis.

(D) Actual in-use vehicle mileage;

AG: Not applicable. AG does not have vehicles.

B&F: Not applicable to B&F.

DAGS: DAGS has this information for each of its vehicles and will continue to keep accurate records.

DBEDT: Vehicle purchases by attached agencies are included in those agencies' reports. No other vehicles were purchased during the year.

DCCA: DCCA does not own any vehicles.

DHHL: Please see Appendix 1.

DHRD: Not applicable. The department does not have any transportation vehicles.

DHS: DHS continues to coordinate with AMD on the issuance of uniform procedures.

DLIR: July 1, 2005 to June 30, 2006: 1999 Ford Windstar – 2096.1 Miles; 1994 Chevrolet Astrovan – 248.0 Miles, July 1, 2006 to June 30, 2007: 1999 Ford Windstar – 1616.6 Miles; 1994 Chevrolet Astrovan – 166.3 Miles.

DLNR: DLNR is developing a program to track vehicle expenses and energy consumption for all cars in the department's inventory. DLNR continues to seek the advice of other state agencies through DBEDT's Lead by Example Leadership Group and will implement internal procedures as appropriate.

DOA: DOA will continue capturing and maintaining in-use vehicle mileage for all new and existing vehicles in the department's Automotive Management System. The department has retrieved information electronically on gas consumption and odometer readings for each vehicle from DAGS Automotive Management Division, Tesoro and Hawaii Petroleum for FY06. Information was distributed to program managers for their review and information. DOA also developed and distributed vehicle refueling log for programs that have vehicles that refuel at places other than DAGS, Tesoro and Hawaii Petroleum. DOA is retrieving information electronically on gas consumption and odometer readings for each vehicle from DAGS Automotive Management Division, Tesoro and Hawaii Petroleum for FY07. Once completed, information will be distributed to program managers for their review and information.

DOE: DOE has developed a database to track all vehicle acquisitions that will enable the collection and maintenance of these data.

DOH: These data are not available in one central file. Each program maintains its own records. Presently the Department has over 40 programs at 80 facilities throughout the state. A database must be created for the individual programs to input the information requested. This database should be web accessible.

DOT-Airports: Please see Appendix 4.

DOT-Harbors: Please see Appendix 5.

DOTAX: DOTAX will comply for each vehicle acquired beginning fiscal year 2005-2006.

FTZ: Not applicable. No vehicle was purchased in FY 2005-2006 and there is no intent to purchase any vehicle in

the foreseeable future.

HCDA: HCDA complies.

HHFDC: Not applicable. HHFDC does not have a “covered fleet.”

HHSC:

- (Maluhia) 2000 Dodge Stratus – 3,446
- (Maluhia) 2002 Dodge Stratus - 624
- (Maluhia) 2004 Dodge Stratus - 294
- (Hilo) 2002 Gold Alero – 4,000
- (Hilo) 2002 Silver Alero – 4,200
- (Hilo) 2002 Green Alero – 2,400
- (Leahi) 2001 Dodge Stratus - 1,643
- (Leahi) 2001 Dodge Stratus – 1,248

HSPLS: 2006 Ford E-250 Cargo Van SH C117: 21,127 miles; 2006 Ford E-250 Cargo Van SH C118: 11,120 miles; 2006 Ford E-350 Cargo Van SHB982: 11,768 miles.

HTA-CC: HTA complies.

NELHA: NELHA will initiate actions to obtain these data.

PSD: See Appendix 7 for the accumulated mileage as of the end of the fiscal year 2007.

UH: This information is in the process of being transferred from hard copy files to computer files. Departmental users shall record the information on their web file account.

(E) Actual in-use vehicle fuel consumption; and

AG: Not applicable. AG does not have vehicles.

B&F: Not applicable to B&F.

DAGS: DAGS has this information for each of its vehicles and will continue to keep accurate records.

DBEDT: Vehicle purchases by attached agencies are included in those agencies’ reports. No other vehicles were purchased during the year.

DCCA: DCCA does not own any vehicles.

DHHL: Please see Appendix 1 for full listing.

DHRD: Not applicable. The department does not have any transportation vehicles.

DHS: DHS continues to coordinate with AMD on the issuance of applicable procedures.

DLIR: July 1, 2005 to June 30, 2006: 1999 Ford Windstar – 226.7 gallons; 1994 Chevrolet Astrovan – 21.7 gallons. July 1, 2006 to June 30, 2007: 1999 Ford Windstar – 176.4 gallons; 1994 Chevrolet Astrovan – 20.6 gallons.

DLNR: DLNR is developing a program to track vehicle expenses and energy consumption for all cars in the department’s inventory. DLNR continues to seek the advice of other state agencies through DBEDT’s Lead by Example Leadership Group and will implement internal procedures as appropriate.

DOA: DOA is capturing and maintaining in-use vehicle fuel consumption for all vehicles in the department’s Automotive Management System. The department has retrieved information electronically on gas consumption and odometer readings for each vehicle from DAGS Automotive Management Division, Tesoro and Hawaii Petroleum for FY06. Information was distributed to program managers for their review and information. DOA has also developed and distributed vehicle refueling log for programs that have vehicles which refuel at places other than DAGS, Tesoro and Hawaii Petroleum. It has established a target consumption goal for vehicle fuel for the department to meet by FY2008 and FY2015 in line with statewide Lead by Example Targets contained in the Report to the 2007 Hawaii State Legislature, Lead by Example, State of Hawaii Agencies’ Energy Initiatives, and FY 2005-2006, prepared by the Department of Business, Economic Development, and Tourism. Baseline fuel consumption data in gallons for FY06 were used to determine target consumption goal for FY2008 and FY2015 as required by Act 96, SLH 2006. No baseline data on fuel consumption were available for FY05. DOA is retrieving information electronically on gas consumption and odometer readings for each vehicle from DAGS Automotive Management Division, Tesoro and Hawaii Petroleum for FY07. Once completed, information will be distributed to program managers for their review and information.

DOE: DOE has developed a database to track all vehicle acquisitions that will enable the collection and maintenance of these data.

DOH: These data are not available in one central file. Each program maintains its own records. Presently the Department has over 40 programs at 80 facilities throughout the state. A database must be created for the

individual programs to input the information requested. This database should be web accessible.

DOT-Airports: Please see Appendix 4.

DOT-Harbors: Please see Appendix 5.

DOTAX: DOTAX will comply for each vehicle acquired beginning fiscal year 2005-2006.

FTZ: Not applicable. No vehicle was purchased in FY 2005-2006 and there is no intent to purchase any vehicle in the foreseeable future.

HCDA: Not applicable. This is part of central motor pool data.

HHFDC: Not applicable. HHFDC does not have a "covered fleet."

HHSC:

- (Maluhia) 2000 Dodge Stratus – 168 gal
- (Maluhia) 2002 Dodge Stratus – 33 gal
- (Maluhia) 2004 Dodge Stratus – 16 gal
- (Hilo) 2002 Gold Alero – 149 gal
- (Hilo) 2002 Silver Alero – 134 gal
- (Hilo) 2002 Green Alero – 75 gal
- (Leahi) 2001 Dodge Stratus - 88 gal
- (Leahi) 2001 Dodge Stratus - 63 gal

HSPLS: 2006 Ford E-250 Cargo Van SH C117: 1,370.97 gallons;
 2006 Ford E-250 Cargo Van SH C118: 715.64 gallons; 2006 Ford E-350 Cargo Van SH B982: 1,088.98 gallons.

HTA-CC: HTA complies.

NELHA: NELHA will initiate actions to obtain these data.

PSD: FY06 information is attached. Please see Appendix 7. FY07 information is forthcoming.

UH: Vehicle fuel usage data collection is being converted to computer file form during the current fiscal year to facilitate data analysis. UH will facilitate data analysis during the current fiscal year.

(F) Actual in-use annual average vehicle fuel economy;

AG: Not applicable. AG does not have vehicles.

B&F: Not applicable to B&F.

DAGS: DAGS has this information for each of its vehicles and will continue to keep accurate records.

DBEDT: Vehicle purchases by attached agencies are included in those agencies' reports. No other vehicles were purchased during the year.

DCCA: DCCA does not own any vehicles.

DHHL: Please see Appendix 1 for full listing.

DHRD: Not applicable. The department does not have any transportation vehicles.

DHS: DHS continues to coordinate with AMD on the issuance of applicable procedures.

DLIR: July 1, 2005 to June 30, 2006: 1999 Ford Windstar – 9.25 miles per gallon; 1994 Chevrolet Astrovan – 11.43 miles per gallon. July 1, 2006 to June 30, 2007: 1999 Ford Windstar – 9.16 miles per gallon; 1994 Chevrolet Astrovan – 8.07 miles per gallon. A decrease of 3.36 miles per gallon resulted from mechanical problems with the vehicle. The mechanical problems reduced the vehicle total miles driven in FY07 by a total of 81.7 miles (248 miles in FY06 to 166.3 in FY07), a 33 percent reduction. The inability to drive the vehicle accounts for decrease in the miles per gallon of 33 percent. The mechanical problems which prohibited the use of vehicle have been repaired by the DAGS Automotive Division.

DLNR: DLNR is developing a program to track vehicle expenses and energy consumption for all cars in the department's inventory. DLNR continues to seek the advice of other state agencies through DBEDT's Lead by Example Leadership Group and will implement internal procedures as appropriate.

DOA: The department calculated annual average vehicle fuel economy for each vehicle based on FY06 data. FY06 data will serve as baseline data. Information on annual average vehicle fuel economy for each vehicle was distributed to program managers for their review and information. DOA is calculating FY07 annual average vehicle fuel economy for each vehicle. Once completed, the information will be distributed to program managers for their review and information.

DOE: DOE has developed a database to track all vehicle acquisitions that will enable the collection and maintenance of these data.

DOH: These data are not available in one central file. Each program maintains its own records. Presently the Department has over 40 programs at 80 facilities throughout the state. A database must be created for the

individual programs to input the information requested. This database should be web accessible.

DOT-Airports: Please see Appendix 4.

DOT-Harbors: Please see Appendix 5.

DOTAX: DOTAX will comply for each vehicle acquired beginning fiscal year 2005-2006.

FTZ: Not applicable. No vehicle was purchased in FY 2005-2006 and there is no intent to purchase any vehicle in the foreseeable future.

HCDA: Not applicable. This is part of central motor pool data.

HHFDC: Not applicable. HHFDC does not have a “covered fleet.”

HHSC:

- (Maluhia) 2000 Dodge Stratus – 20.5 mpg
- (Maluhia) 2002 Dodge Stratus – 18.9 mpg
- (Maluhia) 2004 Dodge Stratus – 18.3 mpg
- (Hilo) 2002 Gold Alero – 26.8 mpg
- (Hilo) 2002 Silver Alero – 31.3 mpg
- (Hilo) 2002 Green Alero – 32 mpg
- (Leahi 12/06) 2001 Dodge Stratus - 18.6 mpg
- (Leahi 4/07) 2001 Dodge Stratus – 19.8 mpg

HSPLS: Hawaii (SH C117), 15.41 mpg; Hawaii (SH C118), 15.54 mpg; Oahu (SH B982), 10.81 mpg.

HTA-CC: HTA complies.

NELHA: NELHA will initiate actions to obtain these data, subject to approval of the UPW to allow its workers to aggregate and report that information, assuming it does not violate any existing work rules or contractual conditions.

PSD: FY06 information is attached. Please see Appendix 7. FY07 information is forthcoming.

UH: Vehicle fuel usage data collection is being converted to computer file form during the current fiscal year to facilitate data analysis. Facilitate data analysis during the current fiscal year.

And

- (9) Beginning with **fiscal year 2005-2006** as the baseline with respect to each agency that operates a fleet of thirty or more vehicles, collect and maintain, in addition to the data in paragraph (8), the following:

(A)

Information on the vehicles in the fleet, including vehicle year, make, model, gross vehicle weight rating, and vehicle fuel configuration;

AG: Not applicable. AG does not have a fleet.

B&F: Not applicable to B&F.

DAGS: DAGS has this information on its vehicles and will continue to keep accurate records.

DBEDT: Does not apply. DBEDT does not operate 30 or more vehicles.

DCCA: DCCA does not own any vehicles.

DHHL: This section does not apply to the Department of Hawaiian Home Lands since the department does not have a fleet of 30 or more vehicles.

DHRD: Not applicable. The department does not operate a fleet of vehicles.

DHS: As applicable, DHS will coordinate the issuance of procedures with AMD.

DLIR: DLIR only owns two light-duty vehicles and this question is not applicable.

DLNR: DLNR continues to gather the required information on its vehicle fleet. DLNR is developing a program to track vehicle expenses and energy consumption for all cars in the department's inventory. DLNR continues to seek the advice of other state agencies through DBEDT's Lead by Example Leadership Group and will implement internal procedures as appropriate.

DOA: DOA is capturing and maintaining information on vehicle year, make, model, gross vehicle weight rating, and vehicle fuel configuration for all new and existing vehicles in the department's Automotive Management System.

DOE: DOE has developed a database to track all vehicle acquisitions that will enable the collection and maintenance of these data.

DOH: These data are not available in one central file. Each program maintains its own records. Presently the Department has over 40 programs at 80 facilities throughout the state. A database must be created for the individual programs to input the information requested. This database should be web accessible.

DOT-Airports: Not included in the present program. Please see Appendix 4 for partial listing.

DOT-Harbors: Please see Appendix 5.

DOTAX: DOTAX does not have a fleet of thirty vehicles or more.

FTZ: Not applicable. FTZ does not operate a fleet of thirty or more vehicles.

HCDA: Not applicable. HCDA does not maintain a fleet of 30+ vehicles.

HHFDC: Not applicable. HHFDC does not have a "covered fleet."

HHSC: This is not applicable since the facilities do not have thirty or more vehicles.

HSPLS: Not applicable. HSPLS does not operate a fleet of 30 or more vehicles.

HTA-CC: Not applicable. HTA does not maintain a fleet of 30+ vehicles.

NELHA: NELHA does not have a fleet of 30 or more vehicles.

PSD: See Appendix 7 for the vehicle year, make, model, gross vehicle weight rating (GVWR), and vehicle fuel configuration. The following classification was used to determine the GVWR:

VEHICLE CLASSIFICATION	WEIGHT
Class 1	0 - 6,000 lbs
Class 2	6,001 - 10,000 lbs
Class 3	10,001 - 14,000 lbs
Class 4	14,001 - 16,000 lbs
Class 5	16,001 - 19,500 lbs
Class 6	19,501 - 26,000 lbs
Class 7	26,001 - 33,000 lbs
Class 8	33,001 lbs and over

UH: This information is recorded on department hard copy files and is in the process of being transferred to computer files. UH will dedicate additional manpower to convert hard copy data to computer file during the current fiscal year to facilitate data analysis.

(B) Fleet fuel usage, by fuel;

AG: Not applicable. AG does not have a fleet.

B&F: Not applicable to B&F.

DAGS: DAGS has the consumption record for all its vehicles and will continue to keep accurate records.

DBEDT: Does not apply. DBEDT does not operate 30 or more vehicles.

DCCA: DCCA does not own any vehicles.

DHHL: This section does not apply to the Department of Hawaiian Home Lands since the department does not have a fleet of 30 or more vehicles.

DHRD: Not applicable. The department does not operate a fleet of vehicles.

DHS: As applicable, DHS will coordinate the issuance of procedures with AMD.

DLIR: DLIR only owns two light-duty vehicles and this question is not applicable.

DLNR: DLNR is developing a program to track vehicle expenses and energy consumption for all cars in the department's inventory. DLNR continues to seek the advice of other state agencies through DBEDT's Lead by Example Leadership Group and will implement internal procedures as appropriate.

DOA: DOA is capturing and maintaining in-use vehicle fuel consumption for all vehicles in the department's Automotive Management System. The department has retrieved information electronically on gas consumption and odometer readings for each vehicle from DAGS Automotive Management Division, Tesoro and Hawaii Petroleum for FY06. Distributed information to program managers for their review and information. DOA also developed and distributed a vehicle refueling log for programs that have vehicles which refuel at places other than DAGS, Tesoro and Hawaii Petroleum. DOA established target consumption goals for vehicle fuel for the department to meet by FY2008 and FY2015 in line with statewide Lead by Example Targets contained in the Report to the 2007 Hawaii State Legislature, Lead by Example, State of Hawaii Agencies' Energy Initiatives, and FY 2005-2006, prepared by the Department of Business, Economic Development, and Tourism. Baseline fuel consumption data in gallons for FY06 were used to determine the target consumption goals for FY2008 and FY2015 as required by Act 96, SLH 2006. No baseline data on fuel consumption were available for FY05. The department is also retrieving information electronically on gas consumption and odometer readings for each vehicle from DAGS Automotive Management Division, Tesoro and Hawaii Petroleum for FY07. Once completed, information will be distributed to program managers for their review and information.

DOE: DOE has developed a database to track all vehicle acquisitions that will enable the collection and maintenance of these data.

DOH: These data are not available in one central file. Each program maintains its own records. Presently the Department has over 40 programs at 80 facilities throughout the state. A database must be created for the individual programs to input the information requested. This database should be web accessible.

DOT-Airports: Included in the present program. Please see Appendix 4.

DOT-Harbors: Please see Appendix 5.

DOTAX: DOTAX does not have a fleet of thirty vehicles or more.

FTZ: Not applicable. FTZ does not operate a fleet of thirty or more vehicles.

HCDA: Not applicable. HCDA does not maintain a fleet of 30+ vehicles.

HHFDC: Not applicable. HHFDC does not have a "covered fleet."

HHSC: This is not applicable since the facilities do not have thirty or more vehicles.

HSPLS: Not applicable. HSPLS does not operate a fleet of 30 or more vehicles.

HTA-CC: Not applicable. HTA does not maintain a fleet of 30+ vehicles.

NELHA: NELHA does not have a fleet of 30 or more vehicles.

PSD: The following defines how much each Program spent for fuel during the past fiscal year. Programs were not required to maintain accumulated mileage prior to fiscal year 2007.

PROGRAM	COST OF FUEL
Kulani Correctional Facility	\$42,622.80
HCCC	\$34,706.42
MCCC	\$4,477.54
OCCC	\$57,069.21
WCCC	\$13,122.86
Intake Service Center	\$1,986.35
Sheriff	\$101,642.21
Administration	\$12,573.09
Halawa Correctional Facility	\$32,114.75
Waiawa Correctional Facility	\$8,919.17
KCCC	\$6,840.00
Corrections Program Services	\$12,350.04
Health Care	\$793.75
NED	\$1,868.01

UH: This information is recorded on department hard copy files and is in the process of being transferred to computer files. UH will dedicate additional manpower to convert hard copy data to computer file during the current fiscal year to facilitate data analysis.

(C) Fleet mileage; and

AG: Not applicable. AG does not have a fleet.

B&F: Not applicable to B&F.

DAGS: DAGS tracks this information and will continue to keep accurate records.

DBEDT: Does not apply. DBEDT does not operate 30 or more vehicles.

DCCA: DCCA does not own any vehicles.

DHHL: This section does not apply to the Department of Hawaiian Home Lands since the department does not have a fleet of 30 or more vehicles.

DHRD: Not applicable. The department does not operate a fleet of vehicles.

DHS: As applicable, DHS will coordinate the issuance of procedures with AMD.

DLIR: DLIR only owns two light-duty vehicles and this question is not applicable.

DLNR: DLNR is developing a program to track vehicle expenses and energy consumption for all cars in the department's inventory. DLNR continues to seek the advice of other state agencies through DBEDT's Lead by Example Leadership Group and will implement internal procedures as appropriate.

DOA: DOA is capturing and maintaining in-use vehicle mileage for all new and existing vehicles in the department's Automotive Management System. The department has retrieved information electronically on gas consumption and odometer readings for each vehicle from DAGS Automotive Management Division, Tesoro and Hawaii Petroleum for FY06, and distributed information to program managers for their review and information. DOA developed and distributed a vehicle refueling log for programs that have vehicles which refuel at places other than DAGS, Tesoro and Hawaii Petroleum. DOA is retrieving information electronically on gas consumption and odometer readings for each vehicle from DAGS Automotive Management Division, Tesoro and Hawaii Petroleum for FY07. Once completed, information will be distributed to program managers for their review and information.

DOE: DOE has developed a database to track all vehicle acquisitions that will enable the collection and maintenance of these data.

DOH: These data are not available in one central file. Each program maintains its own records. Presently the Department has over 40 programs at 80 facilities throughout the state. A database must be created for the individual programs to input the information requested. This database should be web accessible.

DOT-Airports: Not included in the present program.

DOT-Harbors: Please see Appendix 5.

DOTAX: DOTAX does not have a fleet of thirty vehicles or more.

FTZ: Not applicable. FTZ does not operate a fleet of thirty or more vehicles.

HCDA: Not applicable. HCDA does not maintain a fleet of 30+ vehicles.
 HHFDC: Not applicable. HHFDC does not have a “covered fleet.”
 HHSC: This is not applicable since the facilities do not have thirty or more vehicles.
 HSPLS: Not applicable. HSPLS does not operate a fleet of 30 or more vehicles.
 HTA-CC: Not applicable. HTA does not maintain a fleet of 30+ vehicles.
 NELHA: NELHA does not have a fleet of 30 or more vehicles.
 PSD: See Appendix 7 for the accumulated mileage as of the end of the fiscal year 2007. Where vehicles are indicated with N/A, the Programs did not provide data noted under the Accumulate Mileage column.
 UH: This information is recorded on department hard copy files and is in the process of being transferred to computer files. UH will dedicate additional manpower to convert hard copy data to computer file during the current fiscal year to facilitate data analysis.

(D) Overall annual average fleet fuel economy and average miles per gallon of gasoline and diesel.”

AG: Not applicable. AG does not have a fleet.
 B&F: Not applicable to B&F.
 DAGS: DAGS currently tracks this information and will continue to keep accurate records.
 DBEDT: Does not apply. DBEDT does not operate 30 or more vehicles.
 DCCA: DCCA does not own any vehicles.
 DHHL: This section does not apply to the Department of Hawaiian Home Lands since the department does not have a fleet of 30 or more vehicles.
 DHRD: Not applicable. The department does not operate a fleet of vehicles.
 DHS: As applicable, DHS will coordinate the issuance of procedures with AMD.
 DLIR: DLIR only owns two light-duty vehicles and this question is not applicable.
 DLNR: DLNR is developing a program to track vehicle expenses and energy consumption for all cars in the department’s inventory. DLNR continues to seek the advice of other state agencies through DBEDT’s Lead by Example Leadership Group and will implement internal procedures as appropriate.
 DOA: DOA has calculated annual average vehicle fuel economy for each vehicle based on FY06 data. FY06 data will serve as the baseline. Information on annual average vehicle fuel economy for each vehicle has been distributed to program managers for their review and information. The department is calculating FY07 annual average vehicle fuel economy for each vehicle. Once completed, information will be distributed to program managers for their review and information.
 DOE: DOE has developed a database to track all vehicle acquisitions that will enable the collection and maintenance of these data.
 DOH: These data are not available in one central file. Each program maintains its own records. Presently the Department has over 40 programs at 80 facilities throughout the state. A database must be created for the individual programs to input the information requested. This database should be web accessible.
 DOT-Airports: Not included in the present program. DOT-Airports note that mixing large equipment with the regulated vehicles in figuring overall fleet mileage will not give a true picture of the on-road light duty vehicle’s performance. If the data for these two types of vehicles should be separated, please officially advise the Division.
 DOT-Harbors: Please see Appendix 5.
 DOTAX: DOTAX does not have a fleet of thirty vehicles or more.
 FTZ: Not applicable. FTZ does not operate a fleet of thirty or more vehicles.
 HCDA: Not applicable. HCDA does not maintain a fleet of 30+ vehicles.
 HHFDC: Not applicable. HHFDC does not have a “covered fleet.”
 HHSC: This is not applicable since the facilities do not have thirty or more vehicles.
 HSPLS: Not applicable. HSPLS does not operate a fleet of 30 or more vehicles.
 HTA-CC: Not applicable. HTA does not maintain a fleet of 30+ vehicles.
 NELHA: NELHA does not have a fleet of 30 or more vehicles.
 PSD: See Appendix 7. City mpg and highway mpg were accumulated based on the vehicle type and the GVWR.
 UH: This information is recorded on department hard copy files and is in the process of being transferred to computer files. UH will begin data analysis to determine fleet fuel economy during the current fiscal year.

Renewable Energy and Resource Development

All affected agencies and programs are directed to review internal policies, rules, and practices regarding permitting requirements affecting renewable energy development. To the extent possible, permitting policies and practices should be **streamlined to expedite implementation** of renewable energy projects.

It is requested that agencies prepare by January 12, 2008, a report to my office identifying the **specific steps they have taken to expedite** the approval of renewable energy projects.

DAGS: Not applicable. DAGS does not issue permits for renewable energy development.

DCCA: Not applicable to DCCA.

DHRD: Not applicable. The department does not issue permits for renewable energy development.

DLNR: DLNR continues to review internal policies, rules, and practices regarding permitting requirements affecting renewable energy development. To the extent possible, DLNR streamlines permitting policies and practices to expedite implementation of renewable energy projects. Two of these permitting processes are detailed below.

DLNR issuance of Conservation District Use Permits. The Office of Conservation and Coastal Lands (OCCL) oversees activities within the Conservation District. OCCL rules state that “energy generation facilities utilizing the renewable resources of the area (e.g. hydroelectric or wind farms)... and other such land uses which are undertaken by non-governmental entities which benefit the public and are consistent with the purpose of the conservation district.” Thus, renewable energy projects can be located within the Conservation District with approval by way of a Conservation District Use Permit.

DLNR issuance of Incidental Take Licenses. In order to comply with both state and federal endangered species laws, energy and resource development projects that impact threatened and endangered species must be issued an Incidental Take License by both DLNR and the United States Fish and Wildlife Service (USFWS). Both agencies require that project proponents complete a Habitat Conservation Plan (HCP) prior to the issuance of the take licenses. In order to minimize procedural burdens on the applicants, DLNR works cooperatively with USFWS in concurrently processing the request for take licenses. After notice in the periodic bulletin of the Office of Environmental Quality Control, a public hearing is held on the islands affected, which is, whenever possible, held jointly with USFWS. The Board of Land and Natural Resources (BLNR) may approve the federal HCP without requiring a separate version if the federal HCP satisfies all the criteria of the state endangered species statutes. All state agencies, to the extent feasible, work cooperatively to process applications for HCPs on a consolidated basis including concurrent processing of any state land use permit application that may be required. In order to further streamline the process of approving an HCP and the issuance of an Incidental Take License, the state established the Endangered Species Recovery Committee that serves as a consultant to the BLNR by reviewing all HCPs and making recommendations regarding whether they should be approved.

DLNR Revised Application to Lease State Lands. For instances when Renewable Energy Producers are interested in leasing state lands, the Application Form has been revised to comply with Section 171-95 (a) (2)(3)(c), HRS. Land Division takes steps to process the request in a timely manner. Staff coordinates the Applicants' request for a lease with OCCL, DOFAW, OHA, and other government agencies. Then, staff obtains approval from the Land Board for the issuance of a direct lease.

DOA: Renewable energy research projects may require the importation of various types of sugarcane, grasses, palms or other plant materials that require permitting through the Plant Industry Division of the Hawaii Department of Agriculture (DOA). The Plant Industry Division is in the process of upgrading its Invicta database software and its hardware platform which will make the import process more efficient, and the data collected more accurate and accessible to both the importer and DOA. Governor Lingle signed Act 159 this year which established an energy feedstock program within DOA to encourage the production of energy feedstocks in Hawaii and create milestones and objectives for energy feedstocks to be grown in the state to meet its energy requirements. DOA will be implementing and moving this program forward in FY08 and beyond.

FTZ: FTZ is supporting the efforts of the DBEDT Strategic Industries Division in this regard.

HCD: There are no plans to expedite approval processes as HCD already has Administrative Rules which mandate that decisions be made within a set amount of time or else permits are automatically approved; however HCD is:

- Currently requiring, as a permit condition, private developers to consult with HECO, DBEDT

Strategic Industries Division, and the Board of Water Supply on ways to conserve/preserve resources; and

- Considering, as part of its Mauka Area Plan & Rules incorporation of LEED standards as a requirement of all development – public or private – in its Kakaako Community Development District. The same is true at Kalaeloa. Neither will be complete before January 12, 2007, but this policy direction may be incorporated into the report.

HHFDC: HHFDC may include evaluation criteria in its solicitation of Request For Proposals to provide higher points for projects with renewable energy features, such as photovoltaic systems and solar thermal systems.

HTA-CC: HTA and HCC continue reviewing all CIP projects to implement, where possible, renewable energy or energy efficiency programs and projects.

NELHA: NELHA was created by statute to research and develop alternative sources of energy, particularly those using the vast solar resource of the ocean. All such work ceased in the 1990s when the USDOE and state withdrew financial support. NELHA, in the meanwhile, was directed by Governor Cayetano to present a plan by which it would become more “self-reliant and less reliant on general fund support.” Over the intervening ten years, “self-reliant” has been interpreted as “self-sufficient.” NELHA exists wholly on Special Funds; no General Funds are provided for its operations. While NELHA has received General Fund support for capital improvement projects, it is extremely unlikely that NELHA would be able to obtain the millions of dollars necessary from General Funds to implement energy production strategies at NELHA.

NELHA, therefore, has embarked on a course of developing energy self-sufficiency through public-private partnerships, whereby private entities build energy generating devices at NELHA and provide that power to NELHA at fixed rates for twenty or more years. The first of these, a 1 megawatt OTEC plant, encountered significant roadblocks to its implementation from the SPO and AG. Therefore, an RFP is now being prepared. The second, a 5 megawatt solar generating plant, was viable based on the Kona International Airport consuming a considerable amount of the power. However, recently DOT informed NELHA that DOT was working with DBEDT to implement its solar plans and that power from NELHA was not going to be required for a number of years. This has probably rendered NELHA’s solar project uneconomic in investors’ eyes; however, NELHA does intend to issue an RFP for the project.

Expediting energy projects at NELHA is quite simple. In the old NELH area, all that is required—right now—is to amend the Special Management Area permit with the County of Hawaii to allow the installation, operation, and use of solar energy. In the HOST Park area, renewable energy projects of a solar nature would be possible under County ordinance, but transmission of that power to any other NELHA facilities is not possible unless it goes through the HELCO electricity grid. HELCO has indicated to Sopogy, a private company that wants to install 1 megawatt of solar thermal electric generating capacity at NELHA and sell the power to HELCO, that for every 1 megawatt of electricity HELCO puts into the NELHA grid, it will take out .33333 megawatts of solar or other renewable energy production. In both the NELH and HOST Park areas of NELHA, it is necessary to obtain the approval of the Federal Aviation Authority to install and operate any project, be it alternative energy, farming, technology or otherwise.

As can be easily determined, hard efforts will be of necessity employed to install alternate energy at NELHA. However, NELHA is committed to be the state leader in alternative energy solutions using unique public-private financing methodologies and a “do it” not a “talk about it” course of action.

Act 160

(1) Energy consumption in kilowatt-hours for the past year

AG: FY07 (kWh consumption): 35,266 (1.4% increase). The kWh increase is attributable to the addition of one position on Kauai; otherwise, kWh usage would be down.

B&F: B&F is unable to provide requested data because office space is not separately metered for kWh consumption. DAGS will be providing composite data for the No 1. Capitol District Building.

DAGS: 49,779,556 kWh.

DBEDT: The DBEDT Film Office is the only electricity user for which the department is account holder. All other DBEDT facilities' consumption and costs for electricity are reported by the Department of Accounting and General Services. Film Studio Total: 439,289 kWh.

DCCA: DCCA (335 Merchant Street): 604,421 kWh. The department is not aware of consumption at other DCCA locations, which are handled through DAGS.

DHHL: 2,902,340 kWh.

DHRD: The department occupies a building operated by the Department of Accounting and General Services (DAGS). Therefore, energy consumption will be reported by DAGS.

DHS: 3,128,267 kWh

DLIR: DLIR energy consumption from July 1, 2005 to June 30, 2006 – 457,698 kWh; DLIR energy consumption from July 1, 2006 to June 30, 2007 – 447,627 kWh.

DLNR: 2,834,669 kWh. Four new accounts have been reported this year. Three accounts for DAR (Hawaii, Kauai, and Oahu) are newly reported. One account for ENG Oahu was not reported previously due to a faulty meter. DOFAW accounts for Maui, Molokai, and Lanai have been separated out from last year's Maui Electric Company totals.

Correction to FY05: 3,776,922; correction to FY06: 3,433,314. These are corrections to add DAR accounts and to remove a Land Division Office in a State Building accounted for under DAGS.

DOA: 3,293,112 kWh. Electricity consumption increased by 360,973 kWh or 12% from FY06 to FY07.

Approximately 293,160 kWh, or 81.2% of the 12% increase, was due to a tremendous increase in electricity usage at the Waimea Irrigation System. The Kiholo Bay Earthquake on October 15, 2006 resulted in extensive damage to the Waimea Irrigation System's infrastructure, requiring emergency use of the deep well pump to provide continuous irrigation water to the farmers in the area. An additional 61,586 kWh were consumed by the Kahuku and Molokai Irrigation Systems. Kahuku's consumption went up because of an increased presence in the office by irrigation staff. Molokai Irrigation System consumption went up because of limited rainfall which necessitated the use of well pumps to provide irrigation water to farmers. Increased consumption by our various irrigation systems for primarily emergency purposes accounted for 354,746 kWh, or 98.3% of DOA's increase of 360,973 kWh in FY07.

DOE: The energy consumption for FY 2006-07 (July 1, 2006- June 30, 2007) is 148,255,173 kWh. (Excludes metered energy consumption for any new meters installed after the baseline year).

DOH: 25,252,433 kWh.

DOT-Airports: 131,493,810 kWh.

DOT-Harbors: 11,311,406 kWh. Increased consumption is due to two major contributing factors. One, there was a huge increase in the number of cruise ships in FY07 (30%) over the previous year, and two, because of the daytime-only calls by cruise ships, Matson and others were forced to work more at night, resulting in more lighting and the associated costs.

DOTAX: Information is to be provided by DAGS.

FTZ: 691,840 kWh.

HCDA: 322,163 kWh; increase attributable to CFS3 lease up with Next Step Shelter (79,680 kWh).

HHFDC:

	FY05 kWh	FY06 kWh	FY07 kWh
Rental Housing Projects	4,860,189	4,829,810	4,822,726
Housing Development	1,339,499	1,380,120	1,330,329
Total HHFDC	6,199,688	6,209,930	6,153,055

HHSC:

Leahi Hospital	3,302,176
Maluhia	2,074,131
Hilo Community Hospital	1,766,400
Kau Hospital	263,560
Hale Hoola Hamakua	1,857,960
Kona Community Hospital	3,041,319
Kohala Hospital	278,240
Maui Memorial Medical Center	15,044,658 New 75,000 sf addition
Kula Hospital	865,969
Lanai Community Hospital	213,100
Samuel Mahelona Memorial Hospital	690,000 New emergency room service established
West Kauai Medical Center	<u>1,212,400</u> Cogen has been down for a month
	30,609,913

HSPLS: Please refer to Appendix 6 for FY05 and FY07.

HTA-CC: 8,056,800 kWh. There is some reduction, due to better energy management and lighter business loads.

NELHA: 4,035,530 kWh.

PSD: Please see Appendix 8.

UH: Total: 156,972,029 kWh.

- UH Manoa – 111,149,787 kWh.
- UH Hilo – 7,867,666 kWh (includes Main campus, Manono campus, & Off campus facilities).
- UH West Oahu – included with Leeward CC.
- Honolulu CC – 6,504,523 kWh.
- Kapiolani CC – 8,171,520 kWh.
- Leeward CC – 6,148,351 kWh.
- Windward CC – 5,861,000 kWh.
- Hawai'i CC 3,731,033 kWh (includes West Hawai'i, Manono, & UHH upper campus CC facilities).
- Maui CC – 5,574,499 kWh.
- Kauai CC – 1,963,650 kWh.

Amount paid in FY07 for kWh consumption:

AG: Cost = \$13,066 (12.2% increase).

B&F: B&F is unable to provide requested data because office space is not separately metered for kWh consumption. DAGS will be providing composite data for the No 1. Capitol District Building.

DAGS: \$9,324,000.

DBEDT: Film Studio Total: \$123,050.

DCCA: DCCA (335 Merchant Street): \$107,423.89. The department is not aware of consumption at other DCCA locations, which are handled through DAGS.

DHHL: \$550,247

DHRD: The department occupies a building operated by the Department of Accounting and General Services (DAGS). Therefore, energy consumption cost will be reported by DAGS.

DHS: \$626,342.

DLIR: DLIR amounts paid for kWh consumption from July 1, 2005 to June 30, 2006 – \$135,558.48; DLIR amounts paid for kWh consumption from July 1, 2006 to June 30, 2007 – \$134,963.04.

DLNR: \$988,354. FY07 Ave. rate/kWh – HECO: \$0.30; HELCO: \$0.40; MECO: \$0.30; KIUC: \$0.33. See Appendix 2.

DOA: \$787,451.44.

DOE: The amount paid for FY 2006-07 kWh consumption is \$31,892,495. This excludes meter bills for any new meters installed after the baseline year. The following CIP projects have added to the DOE's overall energy usage:

1. New portables (connected to the existing school's electrical meter):

Oahu: Kapolei Middle (3); Holomua Elementary (6); Waipahu Elementary (2); Waianae High (2); Ewa Elementary (1); Kahuku High & Intermediate (2); Wahiawa Middle (2)

Hawaii: Naalehu Elementary & Intermediate (1);

2. New facilities:

Maui: Baldwin High- 8 classroom building: connected to existing meter

Oahu: Nanakuli High & Intermediate- Athletic Complex: connected to existing meter

Ewa Beach- 6 Classroom Bldg: connected to existing meter

Leihoku Beach- Admin Library: connected to existing meter;

3. New schools (new electrical meter):

Maui: Pomaikai Elementary- usage & billing amount: 22,000 kWh - \$6,868 (Opened 7/2007)

Oahu: Keoneula Elementary- usage & billing amount: 581,280 kWh - \$95,303 (Opened 1/2007)

4. New air conditioning loads:

Maui: Kihei Elementary- usage & billing amount: 34,200 kWh - \$10,507

These increases were somewhat offset through DOE's ongoing program to retrofit classrooms with more energy efficient fluorescent light fixtures (conversion of T-12 light fixtures to T-8 fixtures) and HVAC (air conditioning) equipment.

DOH: Total cost was \$4,707,811.

DOT-Airports: \$22,957,892.39.

DOT-Harbors: \$2,115,298.12.

DOTAX: Information is to be provided by DAGS.

FTZ: \$156,670.21.

HCDA: \$61,014.33.

HHFDC:

	FY05 COST	FY06 COST	FY07 COST
Rental Housing Projects	\$666,654	\$720,237	\$831,482
Housing Development	\$203,778	\$257,907	\$268,616
Total HHFDC	\$870,432	\$978,144	\$1,100,098

HHSC:

Leahi Hospital	\$ 529,926
Maluhia	322,300
Hilo Community Hospital	559,391
Kau Hospital	74,393
Hale Hoola Hamakua	504,733
Kona Community Hospital	800,539
Kohala Hospital	76,684
Maui Memorial Medical Center	2,557,738
Kula Hospital	230,779
Lanai Community Hospital	71,919
Samuel Mahelona Memorial Hospital	220,383
West Kauai Medical Center	<u>417,699</u>
	\$ 6,366,484

HSPLS: Please refer to Appendix 6 for FY05 and FY07. Energy consumption increased substantially from FY05 primarily due to the new Kapolei Public Library. This is the second largest public library in the state, next to only the Hawaii State Library. The other major factor affecting kWh consumption was the increase in total public service hours by 2,400 hours annually, due to changes in schedules. HSPLS was on a single shift back in FY05 due to budget restrictions. Since then, HSPLS has gradually started increasing public service hours statewide as we have begun to fill vacant positions.

HTA-CC: \$1,673,674.43 (\$152,331.27 increase because of electric cost increase.)

NELHA: \$1,071,936.34.

PSD:

Program	FY07 costs
HCF	941,031.00
KCF	337,700.78
WCF	171,079.00
HCCC	325,966.31
MCCC	497,350.99
OCCC	1,012,955.29
KCCC	254,919.05
WCCC	306,004.14
Kauai Intake	6,236.49
Hawaii Intake	15,070.68
Maui Intake	7,882.26
Hawaii Paroling office	5,474.38
NED	9,726.84
Total	3,891,397.21

UH: Total: \$26,341,093.

- UH Manoa – \$16,669,655.00.
- UH Hilo – \$2,117,844.00.
- UH West Oahu – included with Leeward CC.
- Honolulu CC – \$1,102,526.00.
- Kapiolani CC – \$1,334,038.00.
- Leeward CC – \$1,006,457.00.
- Windward CC – \$925,430.00.
- Hawai'i CC – \$1,030,108.00.
- Maui CC – \$1,483,585.00.
- Kauai CC – \$671,450.00.

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(2) Steps taken to **inventory, investigate, plan, and implement** energy reduction efforts; and

AG: The department has issued reminders to staff to “Switch it Off,” keep blinds closed, and report equipment malfunctions. All new equipment purchases must be ENERGY STAR, or approved by Administrative Services Office if not ENERGY STAR.

B&F: Please see items 4, 5, 6 and 7 under “Act 96 SLH 2006: Buildings and Facilities,” above.

DAGS: Typically, DAGS-CSD staff initiate replacement projects for the building mechanical equipment when the equipment reaches its expected life span or begins to cause problems. Accordingly, the new equipment has higher efficiencies due to newer technologies and because the older equipment’s efficiency decreased with age. DAGS staff also utilize service and maintenance contractors to aid in the inventory process. This arrangement works well because the service and maintenance contractors have the greatest knowledge of the operations and condition of the equipment; they physically inspect all of the major building equipment on a quarterly basis (at minimum).

During FY2006-2007, DAGS-PWD and/or DAGS-CSD staff considered using “cost/benefit analyses” for replacement of existing A/C systems with new, more efficient A/C systems (prior to the existing A/C systems reaching their expected life span). DAGS used “cost/benefit analyses” to determine if replacement of the existing electronic ballasts and T-8 lamps for state office buildings on Oahu with the new Super T-8 lighting ballasts and lamps is cost-effective. Staff also worked with Hawaiian Electric Company (HECO) staff to streamline the process for tracking state construction projects and to ensure maximum participation in available HECO rebate programs. DAGS-designated “pilot retrocommissioning (RCx) projects” were initiated for selected state office buildings on each island (such as: State Capitol Building and Keelikolani Building on Oahu; Lihue State Office Building on Kauai; Hilo State Office Building on Hawaii; and Wailuku State Office Building on Maui).

The Stadium Authority continues to take the following steps to reduce its energy consumption: develop an inventory of all incandescent lighting sources, and initiate steps to convert to higher efficiency lighting; initiate a program for turning off all lighting and electrical equipment when not in use; implement a policy where office temperatures in air-conditioned spaces are set at 78 degrees Fahrenheit; lower water heater thermostat settings to 120 degrees Fahrenheit or less; purchase and use ENERGY STAR listed products whenever possible; and replace air-conditioning insulation whenever possible.

DBEDT: Most of DBEDT’s energy-related work is supported by Federal funds, often the result of winning nationwide competitive grant solicitations. DBEDT has provided funding and technical assistance for energy efficiency and training projects as follows:

Energy Performance Contracting. Staff completed research to provide input to management on rapid implementation of energy efficiency through energy performance contracting (EPC) in state facilities. A major conclusion is that standardized documentation is necessary for rapid implementation. Currently, each state agency develops its own contract scopes of work and special conditions. With the assistance of the National Association of State Energy Offices (NASEO), several experts were contacted regarding their availability to provide technical assistance to the state. At the end of the quarter, a contract had been awarded to a nationally known consultant on EPC, David Birr, for technical assistance, supported by the Lead by Example program and a Rebuild America competitive grant. As of June 30, 2007, DBEDT will provide support to this project through various staff and contractual resources and will immediately provide a Roadmap that describes the steps agencies need to take to implement energy performance contracting, a guideline/spreadsheet for identifying energy and water efficiency projects, and criteria for selecting the most cost effective projects. Information will also be provided as requested by the agencies; for example, DOT-Airports wanted information on inclusion of performance requirements in their maintenance contracts. (A sample contract was provided to them.)

Hawaii Public Housing Authority Energy Performance Contract. DBEDT developed a draft RFP for energy performance contracting for the HPHA and met with the new Executive Director, Chad Taniguchi, and key staff on June 19, 2007. Following the briefing, the HPHA project manager, DBEDT staff and consultant David Birr met to go over the draft RFP for the 5,363 residential units that would be retrofit with energy and water efficiency improvements. Estimates of the value of the project are from \$10 - \$15 million with annual energy and water savings of \$1 to \$1.2 million. The project would be carried out under HUD requirements and would use third party financing. On

Thursday, June 19, 2007, DBEDT staff and consultant met briefly with the HPHA Executive Director and the Chairman of the HPHA Board. The Chairman directed that HPHA proceed with the project. Several details still have to be worked out.

DAGS, DOT-Airports, UH-Manoa EPC consulting. DBEDT and DBEDT's energy performance contracting consultant also met separately with staff from DAGS, DOT- Airports, and UH-Manoa to provide a briefing on energy performance contracting, mention the urgency of energy use reduction in state facilities, and answer questions as to next steps on how to implement energy performance contracts. All agencies indicated an interest in investigating the potential for multi-million dollar energy performance contracts at their agencies.

UH-Hilo Energy Performance Contract. UH-Hilo has completed a successful ten-year energy savings performance contract. For the period 11/15/96 to 11/14/06, the project provided \$6,966,000 million in energy and operational savings, exceeding the guaranteed savings by \$376,344. Cost of the project was \$6,402,695 million.

Judiciary Energy Performance Contract. The Judiciary completed construction on its six-building, lighting-only energy performance contract in September 2004. A 16% reduction in energy use and a 12% reduction in demand were achieved. Total project cost was \$1,500,000. Annual savings at 2004 utility rates are about \$253,000.

Hawaii Air National Guard Compressor Project. The Rebuild Hawaii Coordinator developed detailed information and followed up on various activities to encourage replacement of an air compressor at Hanger 35, Hickam Air Force Base, occupied by the Hawaii Air National Guard (HIANG) and the Air Force 15th Aircraft Maintenance Squadron. Installation of a new compressor was completed on May 15, 2007, and training of HIARNG and Air Force maintenance workers is currently underway. Annual energy savings are estimated at \$50,000.

Cost/Benefit Analysis of Green vs. Conventional Construction for Department of Education. Findings from this study show that it is very feasible to design new elementary schools to be sustainable. Economic benefits include the reduction of operational costs by 30% in comparison to a code-compliant conventional school, a savings of approximately \$60,000 per year (2006 dollars). Two case studies developed as part of this project were (1) Waipahu Intermediate School Cafeteria, a national-award winning project with economic benefits including reduction of operational costs by 15% over conventional cafeterias; and, (2) a model of the feasibility, costs and benefits of passive heat abatement strategies in a hypothetical retrofit of a classroom at Campbell High School, which indicates that benefits of passive design strategies for heat abatement are very limited due to building orientation and envelope design. A key part of the report was Implementation Research and Strategies for the Department of Education to pursue to integrate sustainable design and best practices into existing processes governing the planning and building of public schools in Hawaii.

Rebuild Hawaii Consortium. The Rebuild Hawaii Consortium is 260-member group of state, county, federal, utility representatives, non-profits, professional organizations, colleges and universities interested in pursuing energy and resource efficiency. The Consortium held three meetings in FY06-07.

The August 22, 2006, meeting featured presentations on global warming and steps to take to conserve energy by Dr. Steve Meder, University of Hawaii, and Jeff Mikulina, Sierra Club. Also featured were presentations on Financing Energy Projects by Miles Kubo, Energy Industries, and on Municipal Tax Exempt Leases by Trini Abaya-Wright, Auto and Equipment Leasing Company of Hawaii. Other presentations included Case Studies on Green Buildings in Schools by Bill Brooks of Ferraro Choi, and an update on Niihau PV and PMRF CHP Projects by Glenn Sato, Kauai Energy Coordinator. James Brown, of HECO, discussed the Hawaii Energy Alliance, and Frank Kingery of Tetra-Tech reported on Rebuild Coordinator activities. Technology presentation included LowE glazing applications in Hawaii by David Kaahaina, Skylights of Hawaii, and Cold Cathode Lighting by Tom Brennan, Eco-Lite. Laura Noda discussed the intention of the High Technology Development Corporation to present workshops on energy efficiency.

The February 21, 2007, meeting was held at the HEI Training Room. After opening remarks from President Jim Maskrey, Maurice Kaya (DBEDT) discussed the state's Clean Energy - Environment State Partnership with EPA and its goals and objectives. Bill Parks, on assignment to DBEDT from the US Department of Energy, then discussed US DOE's partnership with DBEDT. Other speakers included: Manfred Zapka on Deep Ocean Water Applications—Power and

Desalinization Technologies for Hawaii; Kevin Saito on an update on Navy energy projects; Bill Nutting on an update of Marine Corps Base Hawaii projects; Garrett Takata (Central Pacific Bank) on solar leasing and energy equipment financing; and Jay Kwok (Bank of Hawaii) and Brian Robertson (SunEdison) on lessons learned and financial risks of solar and energy equipment leasing. Additional speakers included: Steve Chang (HECO) on Food Services Efficiency-Recipes for Success; Tom Van Liew (DBEDT) on Institutional Food Services Efficiencies; Mike Markrich on MicroPlanet High Test Voltage Regulator Test Results; Rory Reiley on Performance Verification of Residential Air-Conditioning Systems; and Tim O'Connell on USDA-Rural Development Agency programs. Eileen Yoshinaka was elected Vice President of the Consortium.

At the May 22, 2007, meeting two new affiliates were introduced: ASHRAE Hawaii Chapter and BOMA- Hawaii. Speakers included Derek Sonoda (HECO) on HECO Residential and Commercial/Industrial Programs Overview; Tom Van Liew on ENERGY STAR Certification; Brenda Lowrey on Analysis of Economic, Environmental, and Occupant Benefits of Sustainable Design and LEED Certification for K-12 schools; Glenn Sato on Results of PMRF CHP Feasibility Study; Allyn Lee on City and County of Honolulu Energy Performance Contracts; Glenn Baker (VERDIEM) on Computer Power Management Technology; John Rei (SOPOGY) on High Temperature Solar; Michael Dwyer (VRTX Technologies) on Non Chemical Cooling Tower Treatment and Energy Management; and James Thomas (Seagull Lighting) on Let ENERGYSTAR Light Your Way.

Through State of Hawaii general funds provided for the Lead By Example initiative, DBEDT sponsored or coordinated the following workshops and training events: DBEDT sponsored or facilitated 89 events in FY07. These events included: training or technical assistance events and case studies; 12 documents prepared focusing on energy efficiency, green building, and commissioning; and seven documents which were for the purpose of data collection or inventory of state energy use. A total of 3,433 persons attended these activities, including a high percentage of personnel from state agencies. These included the State Departments of Agriculture, Accounting and General Services, Budget and Finance, Hawaiian Home Lands, Human Resources Development, Human Services, Land and Natural Resources, Education, Health, Taxation, Transportation (Harbors, Airports, Highways), Commerce and Consumer Affairs, Public Safety, Human Services, Business, Economic Development and Tourism, Labor and Industrial Relations, the Hawaii State Public Library System, University of Hawaii, University of Hawaii Community Colleges, Hawaii Public Housing Authority, Hawaii Health Systems Corporation and the Attorney General. Representatives from the City and County of Honolulu and the Counties of Maui, Kauai and Hawaii also attended these activities.

Additionally, DBEDT has provided funding and technical assistance for a project promoting ENERGY STAR Portfolio Manager Rating System Benchmarking of State of Hawaii facilities. DBEDT worked with the new Energy Engineer to assess the ranking of six State of Hawaii facilities using the ENERGY STAR Portfolio Manager, utility and building occupancy data. After receiving verification, the Kakuhihewa, Kapolei State Office Building, the State Office Building and Paki Hale Judiciary Building achieved ENERGY STAR Building Labels in early 2007. An ENERGY STAR label means that the building is ranked in the upper 25 percent of all office buildings nationally. The State of Hawaii Capitol Building, Kalanimoku and the Department of Health's AFEES buildings, which are mostly older buildings with older equipment, will need additional upgrades in order to qualify for an ENERGY STAR Building label.

DBEDT provided building benchmark data and developed documents, spreadsheets and other materials to assist SOH agencies with prioritizing energy conservation measures related to the building envelope, air conditioning, lighting, motors and other energy systems.

DCCA: Most electricity is for air conditioning. Regular maintenance and cleaning of air ducts ensures efficient airflow within the system. Ninety percent of all light fixtures use energy-saving light bulbs and are activated by motion detectors or timers.

DHHL: DHHL has asked the electric companies on all islands to provide a historical record of energy consumption in kilowatt-hours for FY07. Data will be used as a benchmark to implement the department's energy reduction effort.

DHRD: Staff attended energy conservation training coordinated by the Department of Accounting and General Services (DAGS) and Hawaiian Electric Company. The department will encourage all employees to implement energy conservation practices (e.g., turning off lights in the restrooms and hallways at the end of the day, turning off equipment when not in use, using the stairs) and will work with DAGS to implement energy efficiency initiatives.

DHS: DHS is a participating department in the state's Lead by Example program. As a part this statewide project, DHS is developing a plan to implement energy reduction efforts.

DLIR: An assessment of electricity use was completed for nine of the Department of Labor and Industrial

Relations (DLIR) offices that are not maintained by DAGS Central Services. The assessment of the nine offices covered the period July 1, 2005 through June 30, 2007. Based on our review, the nine offices utilized a total of 905,325 kilowatt-hours, resulting in a total cost of \$270,521.52.

Based on the energy usage, DLIR plans to do the following:

1. Consult with DAGS and issue a department memorandum reminding all offices of the need to adhere to energy efficiency practices such as turning off electrical lights, printers, copier machines, etc. when not in use.
2. Continue to request assistance from DAGS to provide analysis of the nine affected DLIR program offices. Based on DAGS analysis, develop a plan work to with DAGS and DLIR offices to develop and implement energy saving measures to reduce electricity usage.
3. Assess each office's space need requirements and consider consolidation of offices.

DLIR participated in an Environmental Preferable Purchasing (EPP) survey mandated under the following federal and state laws, and the applicable Administrative Directives:

1. Resource Conservation and Recovery Act (RCRA), Section 6002, 42 U.S.C. 6962. The RCRA requires state and local government agencies and their contractors receiving appropriated federal funds to purchase EPA-designated recycled content products.
2. Section 103D-1005(b) of the Hawaii Revised Statutes. Section 103D-1005(b) requires state purchasing agencies and encourages county purchasing agencies to:
 - Apply preferences to purchase of products with recycled content;
 - Be consistent with RCRA Section 6002, E/O. 13101 and its progeny; and
 - Ensure, to the maximum extent economically feasible, the purchase of materials that may be recycled or reused when discarded and to avoid the purchase of products deemed environmentally harmful.
3. Administrative Directive 06-01 signed by Governor Lingle in January 2006 requires state agencies to purchase environmentally preferable products that reduce their impact on the environment and improve indoor environmental quality. Also included are ENERGY STAR and low toxic products as examples of environmentally preferable products.

DLIR will continue to utilize the results of the EPP survey to structure and plan for the period July 1, 2007 to June 30, 2008. In addition, DLIR will continue to utilize the SPO price list and require all programs to purchase recycled and environmentally preferable products.

DLIR programs have not been major users of ENERGY STAR products; however, DLIR will continue to include ENERGY STAR products as part of the procurement approval process. In addition, the DLIR will also include in its procurement procedure a policy to check whether utility rebates are available and can be utilized in the purchase of the products.

The DLIR policy mandates the purchase recycled paper and utilization of the State Procurement Offices Price List (SPO PL) for all purchase where products are available through the SPO PL. The DLIR will issue a departmental instructional memo to continue to insure conformance with the results of the EPP Survey as well in the procurement policy.

The gasoline usage and cost of fuel for the two vehicles owned by DLIR were derived by manually reviewing all invoices submitted by the DAGS Automotive Management Division and preparing a spreadsheet. DLIR owns a 1998 Ford Windstar and a 1994 Chevrolet Astrovan. DLIR does not have immediate plans to purchase another vehicle in the near future; however, DLIR will adhere to the applicable state laws regarding vehicle purchases. DLIR's two current vehicles are in sound operational condition and thus DLIR has no plan to replace the vehicles in the near future. Prior to purchasing a vehicle in the future, the DLIR will insure that any vehicle purchase satisfies federal and state mandates. In addition, the DLIR will purchase the most fuel-efficient vehicle that meets the needs of our program.

DLNR: DLNR continues to work with the Department of Business, Economic Development, and Tourism (DBEDT) in a statewide collaboration on energy efficiency, as a member of DBEDT's Lead by Example Leadership Group. DLNR will continue to work with the Leadership Group on ideas to implement energy savings across the state. Act 96, SLH 2006, mandated that each state agency comply with a variety of energy directives involving buildings and facilities, transportation vehicles and fuels. To this extent, DLNR is developing a program to track vehicle expenses and energy consumption for all cars in the department's inventory. Additionally, DLNR is seeking the advice of other state agencies through DBEDT's Lead by Example Leadership Group and will implement internal procedures as appropriate.

DLNR's facility portfolio is limited. Most of buildings owned by DLNR are composed of base yards, harbor facilities and park restrooms. DLNR incorporates energy saving concepts into all of its owned facilities

as appropriate. Energy saving concepts includes the use of solar water heaters, natural ventilation and lighting, and use of energy-efficient lights. Additionally, DLNR has begun to incorporate energy savings practices into design projects such as the recycling of existing asphalt and concrete pavement into backfill material.

DLNR evaluates the feasibility of implementing energy conservation measures when capital improvement projects are designed. As DLNR staff learns more about energy efficiency and environmental design, they will incorporate these concepts into building and facility design and renovations.

For energy reduction efforts at non-DLNR owned offices and buildings, staff has implemented office paper recycling. Staff is also reminded to turn off equipment when not in use, keep blinds closed, and report equipment malfunctions. Energy efficient light bulbs are used where feasible and timed sensors have been installed to allow automatic shutoff off of lights.

DLNR uses life cycle cost-benefit analysis to purchase energy efficient equipment such as ENERGY STAR products and uses utility rebates where available to reduce purchase and installation costs. DLNR further encourages the use of recycled products with contractors. DLNR also adheres to the allowed 10% price preference for bids using recycled products in accordance with Section 103D-1005, Hawaii Revised Statutes.

DOA: The Department of Agriculture has:

- (1) Identified retro-commissioning and specific energy efficiency projects and related costs for each year of the FY 2007-2009.
- (2) Submitted budget requests for funding to implement retro-commissioning and specific energy efficiency projects for each year of the FY 2007-2009. The legislature appropriated a total of \$215,058 in general fund in FY08 in the department's operating budget for lighting and window tinting projects and \$79,434 in general obligation bond funds in FY08 in the department's capital improvement program budget for retro-commissioning projects.
- (3) Obtained Governor's approval to delegate operating funds for the lighting and window tinting projects to DAGS as the expending agency. DOA will be requesting initiation of projects once operating funds are allocated for the full year and the capital improvement project implementation plan has been reviewed and approved.
- (4) Requested from DBEDT a list of energy and water conservation practices that DOA could implement. Received some ENERGY STAR saving tips for equipment, lighting, and car driving and maintenance (adapted from US EPA) from DBEDT staff.
- (5) Retrieved information electronically on gas consumption and odometer readings from DAGS Automotive Management Division, Tesoro and Hawaii Petroleum for FY06. Developed and distributed vehicle refueling log for programs that have vehicles which refuel at places other than DAGS, Tesoro and Hawaii Petroleum.
- (6) Retrieving information electronically on gas consumption and odometer readings for each vehicle from DAGS Automotive Management Division, Tesoro and Hawaii Petroleum for FY07. Once completed, the information will be distributed to program managers for their review and information.
- (7) Monitored and compiled kWh consumption data and cost for electricity for FY06.
- (8) Established target consumption goals for electricity, fuel and environmentally preferred products for the department to meet by FY2008 and FY2015 in line with statewide Lead by Example Targets contained in the Report to the 2007 Hawaii State Legislature, Lead by Example, State of Hawaii Agencies' Energy Initiatives, FY 2005-2006, prepared by the Department of Business, Economic Development, and Tourism. Baseline electricity consumption data in kWh for FY05 were used to determine the target consumption goals for electricity for FY2008 and FY2015. Baseline fuel consumption data in gallons and baseline environmentally preferable products consumption data in units for FY06 were used to determine the target consumption goals for FY2008 and FY2015. No baseline data on fuel consumption and environmentally preferable products were available for FY05.
- (9) Finalized and issued the department's Energy and Water Conservation and Resource Efficiency Program which provides policies, guidelines and practices with the goal of minimizing energy, fuel and water consumption and implementing resource-efficient operations. The program includes the department's target consumption goals for electricity, fuel and environmentally preferred products.
- (10) Distributed Governor's memo requesting employees to conserve water and to report any water waste from open faucets, leaky plumbing fixtures, and broken and/or inefficiently run irrigation systems.
- (11) Developed a spreadsheet to compare data in FY2005, FY2006, & FY2007 on electricity consumption and percentage increase/decrease from the previous year and distributed it to program managers for their review and information.

DOE: The Energy Coordinator position established by Act 96 for DOE has been filled. With this position, a Pilot Energy Conservation Program was launched involving 15 volunteer schools which received an Energy Audit

with electrical energy consumption tracking. The program has been successful, providing a general inventory for DOE school equipment that furthered a plan to help schools reduce energy use.

Implementation of the pilot school energy reduction program involved the following efforts:

- 1) On-site inventory count – Energy Audit.
- 2) Energy Audit Report- a document that included an Inventory (list of equipment – as found), and estimated electrical consumption with and without energy efficiency improvements.
- 3) Equipment Inventory which lists equipment most suited for immediate or long-term replacement, thereby providing energy efficiency savings.
- 4) School Tips and Guidelines distributed with the report that allow school staff to understand school equipment energy consumption and how to best manage energy use by specific equipment.
- 5) Pre-implementation of a school-wide energy conservation program that creates a monthly electrical energy baseline for each school. With this, each school can track monthly consumption, strategizing to reduce energy use in order to gain a monetary credit or avoid a penalty.

Program investigation and planning began for a school-wide energy conservation cap (limit). This “Energy Conservation Program” required the creation of a baseline using a 3-year month-to-month averaging. This program allows DOE to track school energy use and apply monetary incentives for energy conserved and penalties for excess energy use.

Training and Education has been another key component of planning and implementation for energy conservation work. The DOE Energy Conservation Coordinator and other DOE employees in key capacities to effect energy conservation have attended workshops, conferences, vendor meetings, and other training when opportunities arise.

DOH: The Kamamalu Building, into which the Department will be moving, will be LEED Silver Certified. All future designs for renovations and construction will be LEED Certified. Air conditioning for the various health centers is shut off at 5:30 PM and on holidays and weekends. Window units have been installed in several offices to avoid having to turn on the central bldg units for those working late or on weekends. Air conditioning units for any DOH renovations are energy efficient and qualify for a HECO rebate. Windows facing south at the Lanakila Health Center were tinted. As light fixtures are retrofitted, lamps and ballasts are changed to more energy efficient ones.

DOT-Airports: DOT-Airports is collecting data on the Division’s current construction projects in the design phase. The Division will investigate the facilities’ energy consumption to plan for reduction, and also plan for efficient design. The Division is implementing energy efficient fixtures and equipment in its currently planned projects. DOT-Airports is investigating existing facilities for options to reduce energy use.

DOT-Harbors: DOT-Harbors needs to develop a program to ensure that inventories, investigations, plans and implementations are effective and in compliance with Act 160.

DOTAX: DOTAX continues to follow Energy Conservation best practices as outlined by the Director of Taxation in his memorandum dated March 1, 2006. DOTAX also continues to monitor and control usage of after hour and weekend air conditioning.

FTZ: FTZ is in the process of replacing the current lighting system inside the warehouse by reducing the number of lights and replacing the 300 incandescent light bulbs with energy efficient 40-60 watt CFL bulbs. These bulbs are on back-order due to high national demand. We may also install a relay to allow lights inside the warehouse to be turned on remotely and tied in with new security system.

HCDA: Actions, as already mentioned, include replacing lights with energy efficient bulbs and turning off lights when not in use.

HHFDC: HHFDC has asked each of its Resident/Site Managers to inventory all their common element lighting fixtures. This inventory will include application/type/location of fixture, number of fixtures, types of lamp (fluorescent [CFL, tube], incandescent, metal halide, high/low pressure sodium, etc.), and wattage. The biggest cost savings will result from converting as many as possible from incandescent to fluorescent.

Managers have also been requested to investigate alternative applications. Additionally, there will be a push within the fluorescent category to convert from the magnetic ballasted T-12 systems to the electronic ballasted T-8 systems.

An example of what this initiative can do: In HHFDC’s 3rd floor office area, located in the Pohulani Building, there are approximately 280 four-foot ceiling fixtures with three tubes in each, and approximately 40 two-foot ceiling fixtures with two U-tubes in each. These lights are on 12 to 15 hours per day, 5 days a week. The change from T-12 to T-8 would cause a sizeable reduction in daily operating costs, \$12,000.00+ annually. The reduction in power consumption could amount to at least 63,000 kWh annually. There are very few (about 12) can lights in the ceiling using regular incandescent or low voltage bulbs. These lights may be replaced with dimmable CFLs, also adding to the total dollars and kWh saved.

Another factor which needs to be considered is the up-front expense of material and labor. Presently, HECO is offering a double rebate for qualified installation of the T-12 to T-8 systems. The payback period for the material is known to be about 4 to 5 months. The cost of labor is unknown at this time, but can be estimated as twice the material cost. Therefore, the best-guess estimate for the total payback would be 12 to 15 months.

This is just the 3rd floor office area; there is still one more floor of office space on the 4th floor which is almost a duplicate of the 3rd floor. Also not yet counted and considered are the 24-hour-a-day lights in all the residential floor corridors, stairwells, elevator lobbies and the parking garage. This would be just one building in downtown. HHFDC has two other buildings of similar construction, plus all the outlying properties, which are considerably smaller but could still generate savings.

HHSC: NORESO has compiled a list of energy reduction alternatives for each facility. When funds become available, more alternatives will be investigated.

HSPLS: HSPLS has already retrofitted lighting at many of our libraries through DAGS and HECO. We always request energy efficient products (i.e. lighting, air conditioning) in all of our construction projects through the design specifications. Projecting or calculating energy savings proves to be very difficult. Many variables would affect usage from the installation of new energy efficient lighting and/or air conditioning systems. Some of the affected libraries shared meters with other facilities and with the schools, if located on their campuses. From FY 2000 to FY 2007, there were also dozens of scheduling changes and public service hour increases impacting utility usage.

HTA-CC: HTA and HCC continue to analyze energy consumption and look for alternative sources. Projects with good returns on investment continue to be submitted as part of the CIP budget. HTA and HCC are looking into the possibility of allowing a 3rd party to install photovoltaic arrays on existing rooftop space at the Hawai'i Convention Center in exchanged for a fixed rate for purchasing electricity.

NELHA: As previously pointed out, NELHA can control only an estimated maximum of 7% of its energy costs. The remainder is used to provide seawater to commercial companies that are the backbone of aquaculture in the state and producing the leading manufactured export from Hawaii. NELHA has extensively inventoried, investigated and planned energy reduction efforts and spoken to many companies that could help in this regard: Chevron, PowerLight, SolFocus, Sun Energy, OCEES, Sea Solar Power, and many others. In most cases, the resulting analysis is that the companies are not willing to do business with a state agency or the possible energy project is too small to merit their attention. However, three sterling examples exist, assuming C.I.P. funds were available to implement additional energy reductions:

- Beach Park Bathroom: NELHA pays HELCO \$1.83/kWh for the power to run this facility. One solar module and a battery could replace this exorbitant charge.
- Guardhouse at NELHA entrance: NELHA pays HELCO \$0.40/kWh for this power. Again, one solar module and a battery could replace this charge.
- Gateway Center: HELCO, under terms of a deal with NELHA during the building's construction, "donated" the photovoltaic arrays on this structure. Terms of the agreement call for HELCO to get all the power from this building at no charge and HELCO sells NELHA power to run the building at a price of \$0.37/kWh. If a company were to be found that had efficient modules and wanted to conduct a demonstration at NELHA (which in and of itself implies NELHA would not pay any money for the equipment and would get them installed for free), NELHA could, since government provides no operating funds with which to operate the Gateway Center, pay HELCO \$10,000 in liquidated damages and require HELCO to remove its arrays from the Gateway buildings. Then, the superstructure would be available for the other company to install its vastly more energy efficient modules (the HELCO modules are less than 10% efficient). At that point, NELHA could negotiate a price for that electricity, disconnect the Gateway Center from HELCO service and reduce its costs while demonstrating distributed energy systems and usage.

PSD: Under Act 213-07, the Department received a capital appropriation of \$500,000 to perform initial planning efforts to identify, prioritize and seek funding to design and construct various retrofits to PSD facilities that would result in measurable savings in energy consumption and reflect the Department's efforts (as well as those of other state agencies) to comply with the intent of Act 160. Presently, the Department is awaiting approval of its FY08 CIP Expenditure Plan by the Governor which will initiate this project to commence planning actions.

UH: UH Manoa – As part of our partnership with HECO, sub-meters were installed and connected to web-based monitoring systems, allowing students, faculty, and the administration to view on-line the daily energy consumption of buildings.

UH Hilo – The university is planning to have night lights remotely controlled via a computer network to turn lights off when buildings are vacated.

Honolulu CC – The campus continues to schedule classroom usage with energy conservation in mind, such as utilizing classrooms in buildings that do not require the use of the central chill water loop system.

Kapiolani CC – The campus has no new initiatives; but continues to consolidate classes into filled buildings during evenings, weekends, and the summer to minimize air-conditioning, lighting and other utility costs.

Leeward CC – There are no new plans by the campus; the college continues its efforts to reduce energy consumption mainly by consolidating scheduling of facilities' use to minimize hours of operation.

Windward CC – There are no new initiatives by the campus, which continues to reduce the use of energy, especially for night classes, by clustering classes in certain areas and buildings.

Hawai'i CC – The campus has no new plans and continues to reduce energy consumption by scheduling classes to achieve energy efficiency and promoting energy conservation awareness among faculty and staff.

Maui CC – The campus has implemented a procurement policy which mandates that any new appliance or product that is categorized by the U.S. Dept. of Energy's ENERGY STAR program, must have an ENERGY STAR rating; a campus-wide lighting retrofit project was completed this year; and the campus purchased and installed power management software (Verdiem) that automatically turns off computers that have no activity on the campus network.

Kauai CC – The college has no new plans and continues to work with its energy management system.

Act 160

(3) A plan or alternatives to reduce energy consumption in the future;

AG: AG is looking to the Lead by Example policy group and DAGS for further ideas to implement for energy savings. The department is working with DAGS to have air conditioning systems evaluated and updated, if deemed necessary.

B&F: The department issued a memorandum encouraging all employees to initiate and implement energy efficient practices (i.e. turning off office light when not in use or when leaving for the day, turning off computer terminals at the end of the day, distributing Energy Star saving tips, etc.) B&F, as well as all other departments, is working with DBEDT in this effort to identify and implement energy reduction initiatives.

DAGS: DAGS-PWD and DAGS-CSD efforts include: development of preliminary application guidelines for the LEED certification process; providing LEED and commissioning programmatic support for other state agencies (in coordination with DBEDT-Strategic Industries Division staff); working on "LEED pilot projects" to implement LEED certification process at Manoa Library, Kohala Library and the Kamamalu Building; initiating "pilot retrocommissioning (RCx) projects" for the State Capitol Building and other selected state office buildings; on-going training and partnering with HECO and DBEDT-Strategic Industries Division staff; installation of sub-metering where feasible; updating and implementing additional DAGS policies; keeping abreast of the latest energy reducing innovations and practices; consideration of "cost-benefit analyses" for installation of premium energy efficiency air-conditioning (A/C) system equipment; and use of ENERGY STAR equipment whenever feasible.

The Stadium Authority will be evaluating the following alternatives for reducing energy consumption in the future: 1) replacing old low-efficiency electrical equipment with higher-efficiency replacement products, and 2) replacing deteriorated power distribution wiring and cables.

DBEDT: DBEDT relies heavily on federal grants to supplement its energy efficiency and renewable energy efforts.

A planned Hawaii Energy Savings Program, to be supported by \$570,000 in federal funds with \$500,000 in cost share from partner Maui Community College, will overcome institutional, market, and regulatory barriers and create a more favorable environment for energy efficiency and renewable energy (EE/RE) technology investments. In doing so, the program will decrease electricity usage in the state by approximately 2.25% within 24 months, curtail imported oil, increase levels and rates of EE/RE investments, and overall, significantly and permanently transform Hawaii's energy markets.

To fully capture the benefits of cost-effective EE/RE investments over the long term and to make those benefits sustainable, states such as Hawaii must take the lead in removing institutional, regulatory, or market barriers. States must also create an environment conducive to increased and accelerated investment in energy-saving technologies by end-users, investors, manufacturers, project developers, Energy Services Companies (ESCOs), lending institutions, and independent power producers.

The state's approach to overcoming institutional barriers related to ineffective EE/RE incentives is to help shape more effective Public Benefits Funds administration, creating incentives for EE/RE that will accelerate their adoption into the marketplace. Hawaii's approach is to provide technical assistance on innovative financing and risk mitigation, as well as developing model documents. Model documents, such as a green power purchase agreement, will assist end-users interested in investing in EE/RE technologies but who may not be able to raise sufficient capital or handle the risk associated with energy technology deployment. To overcome regulatory barriers to distributing electricity where and when it is needed, DBEDT is providing technical assistance on intergovernmental wheeling to public buildings. Wheeling would make the grid more efficient, help keep money in the state, promote economic development, enhance energy security, demonstrate environmental stewardship, and make utility electricity rate structures more transparent, as well as potentially avoiding unnecessary T&D infrastructure investments. And, to overcome market barriers to greater deployment of advanced EE/RE technologies, the state will prove the benefits of "renewable space conditioning" with solar thermal cooling at a community college, shifting peak cooling loads off the grid.

With high electric rates, investments in energy efficiency and renewable energy should show high returns and short payback periods, making Hawaii a logical test bed for early adoption of energy saving technologies. Early adoption of advanced energy efficiency technologies and practices, and renewable energy resources and technologies, can help meet the 2005 EPACT goal of a 25% reduction in energy use by 2012. Successful implementation of Hawaii's program would also advance NAPEE-related goals of tapping economically attractive energy efficiency resources to achieve 20% savings in total national electricity demand by 2025, while cutting oil-fueled load growth by half.

DBEDT will continue to participate in partnerships that will reduce energy use, encourage renewable

energy, and reduce climate change impacts. Hawaii has joined 16 other states working with the US Environmental Protection Agency (EPA) to develop strategies to promote cost-effective energy efficiency, clean distributed generation, renewable energy, and other clean energy sources that can provide air quality and other benefits. The State Department of Health is an observer/advisor in the Hawaii partnership. EPA provides DBEDT with access to a comprehensive technical assistance package. Hawaii's partnership focuses on Green Power Purchasing, Lead by Example (building efficiency, financing, Environmentally Preferable Purchasing, and biofuels), and Climate Change. This partnership will give us the opportunity to find out from EPA and other states ways to measure impact of energy and resource efficiency programs in Hawaii by determining multipliers for energy and cost-savings, energy system, greenhouse, gas, air quality and human health, and economic and macroeconomic benefits.

DBEDT will continue to offer technical assistance and training opportunities to State facilities in assessing potential for energy, water, and renewable energy measures, financing considerations, and implementation. This will include continuing to invite State employees and consultants to seminars on energy efficiency.

DBEDT signed an agreement with the US Environmental Protection Agency on October 14, 2005 to participate in the ENERGY STAR 10% Challenge program. The goals are to improve the energy efficiency of state facilities by 10% and reduce greenhouse gas emissions. The State of Hawaii's Partnership Plan includes:

- Developing public and private partnerships to promote EPA's Portfolio Manager energy performance rating system;
- Providing training for public and private partnerships to identify opportunities for improvements;
- Participating in and promoting EPA's ENERGY STAR webcasts, programs, and resources; and
- Incorporating ENERGY STAR products in state agency procurements.

DBEDT provided materials to state agencies on how to prioritize energy conservation measures related to various energy systems.

DCCA: DCCA has regularly scheduled maintenance of its air conditioning system. In addition, the department is making preliminary investigations into the use of solar power for its energy needs.

DHHL: DHHL will develop an in-house energy program to inform all department staff how to reduce energy consumption in the future, using guidelines and recommendations from the US Department of Energy as well as from DBEDT. DHHL will develop an education program for the department's homesteaders on the benefits of using solar water heating. DHHL will use our department publications to inform homesteaders and staff of the benefits of using solar and other alternative energy.

DHRD: The department will continue to encourage all employees to implement energy conservation practices and will work with DAGS to identify energy efficiency initiatives.

DHS: DHS is a participating department in the state's Lead by Example program. As a part of this statewide project, DHS is developing a plan to reduce future energy consumption.

DLIR: Based on its energy use, DLIR plans to continue to consult with DAGS and issue a department memorandum reminding all offices of the need to adhere to energy efficiency practices such as turning off electrical lights, printers, personal computers, copier machines, etc. when not in use. DLIR will also continue to request assistance from DAGS to provide analysis for the nine affected DLIR program offices. Based on DAGS' analysis, DLIR will continue to develop plans to develop and implement energy saving measures to reduce electricity use. DLIR will assess each office's space need requirements and consider consolidation of offices.

DLNR: DLNR hopes to undertake a large project at Iolani Palace in FY08 which will serve as demonstration projects for energy efficiency across the state. Iolani Palace is not only a Hawaiian national treasure but is the only official state residence of royalty in the United States. Built in 1882, the Palace was the official residence of the Hawaii kingdom's last two monarchs. Restoration in the 1970s included the installation of air-conditioning units to help preserve the building as well as the treasures held within.

Located in a humid environment, the Palace is highly susceptible to mold growth and other forms of biodeterioration. Inadequate air conditioning systems can lead to variations in relative humidity, which can further lead to chemical reactions. The negative results of these chemical reactions are that: metals may corrode; many dyes may fade; glass collections may be damaged; furniture joints may be loosened; paint chipping may emanate from canvases; and paper may be cockled. Thus, as with any historical site, Iolani Palace's air conditioning system is of great importance to the environment in which the collections are housed.

The existing air-conditioning system has deteriorated and has failed to provide the necessary climate control for uniform temperature and humidity. The system continues to experience breakdowns and continued system failures will lead to eventual damage and loss of invaluable cultural artifacts.

Thus, the entire air-conditioning system needs to be replaced. This creates an opportunity for DLNR to look toward energy efficiency in the development of a new air-conditioning system for the Palace. Staff has begun to look at new technologies in air conditioning systems which utilize photovoltaic technology and recycled water. Additionally, commissioning of the chosen system will be included for optimum performance.

Taking into consideration its historic significance, the Palace's façade would not be altered. However, adjoining buildings could be utilized for alternative energy production, which could in turn be used at the Palace. With \$900,000 allocated in FY06 (Act 160) for design and construction, DLNR has begun to design an air-conditioning and climate control system for the Palace. In 2007, the project was allocated \$4.5 million to continue and implement the project.

The state would benefit greatly from having Iolani Palace serve as a pilot project for energy efficient air conditioning technology while saving money and preserving Hawaii's history.

DOA: DOA will initiate lighting and window tinting operating projects and retro-commissioning CIP projects, send out reminders to employees to practice energy and water conservation measures, replace air conditioning systems and units with energy efficient ones, upgrade to more energy efficient pumps and motors on irrigation systems as funds allow, install timers and other electronic controls on selected irrigation systems, promote car-pooling, and establish maximum allowable air conditioning settings by building and by season.

DOE: Plans for future energy consumption reduction include both energy conservation measures and efforts with renewable energy.

A) Energy Conservation Measures

- 1) Energy Audits: The Energy Conservation Coordinator will continue on-site school assistance for energy audits and educational exchange.
- 2) "Energy Conservation Program:" Investigative work will continue to establish a key program component—the 3-year baseline. The baseline will allow the calculation of monetary incentives for schools that conserve energy and penalties for those who go beyond their baseline limit.
- 3) Technology Pilot Studies: Various technologies are available that may reduce energy use for DOE; however, their adaptability, suitability, etc. for use with DOE remains an element of risk management.
- 4) Education and Training: More education and training will be sought from energy conservation equipment vendors. LEED education will continue for DOE employees via on-the-job and USGBC product offerings.
- 5) ESCO-UESC-PPA Effort: Investigative work will continue in the areas of financing energy conservation equipment retrofitting with the assistance of Energy Services Companies, Utility Energy Savings Contracts, and Purchase Power Agreements.
- 6) Enhanced Energy Audit: Investigation will continue into the possible expansion of the energy audit beyond the school equipment inventory count to measurement and verification aspects of energy conservation enterprises.
- 7) DOE Operations and Maintenance Best Practices: In the future, DOE will hold internal meetings between Offices and Branches that will align and focus energy conservation efforts. This can include product selection by committee based upon maintenance, performance, LEED, and cost benefits.
- 8) DOE School Best Practices: School equipment and/or operations that may best benefit energy conservation with the least amount of negative impact to school operations and functions will be identified. This will also include procurement and availability of energy efficient products or products favoring LEED criteria.

B) Renewable Energy. The Legislature, through Act 96/SLH 2006, appropriated \$5 million to DOE for a pilot photovoltaic project. The specific objectives as set forth in the Act as they relate to this Photovoltaic (PV) pilot project include:

1. Having, at minimum, a project site at one public school within each of the counties of Oahu, Hawaii, Kauai and Maui.
2. Timing installation of PV systems in conjunction with substantial roof repairs or roof replacement.
3. Applying net energy metering to offset the cost of the system.
4. Recapturing system cost within three quarters of the useful life of the PV system.
5. When advantageous, using energy-savings contracts such as third party leases or purchases to maximize the objectives of this section.
6. Reporting results and recommendations from this project.

The Governor has released the funds and DOE has selected Energy Industries as the consultant to implement this program. Energy Industries (EI) is a Hawaii-based Energy Services Company (ESCO) that

specializes in reducing the energy expenses of its clients by identifying and implementing energy conservation measures (ECMs) that reduce electrical demand load. EI also specializes in the integration of renewable and distributed energy systems along with energy conservation measures. The contract with EI includes the following deliverables:

1. Rating and selection of project sites (schools) based on a weighted scorecard.
2. Development of a basis for design and determining optimal implementation.
3. Project management and quality assurance during construction.
4. Measurement, verification, and reporting of pilot results one year after PV installation.

For deliverable #1, Energy Industries has completed the draft report for DOE's review. This report provides the list of recommended schools for the installation of photovoltaic systems. Also, the report details the results of the site visits conducted at the 22 "short listed" schools. The goal is to identify the best locations for photovoltaic array installations; i.e. information was collected on roof condition, orientation, and size.

DOE is also in the process of developing guidelines, standards, and best practices to meet new energy efficiency requirements for all CIP and R&M projects.

DOH: The Department will have the Communications Office issue periodic bulletins to the employees illustrating ways for them to save energy at work and at home. All future designs for renovations and new construction will be LEED Certified. The Department's fiscal office will insure that any appliance purchases by programs meet ENERGY STAR ratings. The Department's fiscal office will insure that vehicle purchases meet all energy conservation requirements. The Department will assess the cost of purchasing a central energy management system to control the air conditioning units at all of its major buildings. Presently, the timers are located at each individual building and not controlled at one location. This is not an efficient way to control air conditioning for multiple buildings.

DOT-Airports: DOT-Airports will inform its employees and tenants about saving energy. DOT-Airports will educate its engineering staff regarding building green and using energy efficient technology in order to implement whole-building design practices. DOT-Airports will upgrade design and construction standards and guidelines according to the LEED standard. DOT-Airports has selected new and existing building improvement projects for certification and commission. See Appendix 3.

DOT-Harbors: Harbors will increase awareness and training for employees on available energy conservation technology or practices and develop program milestones or metrics to encourage reduction of energy consumption.

DOTAX: DAGS is currently working on energy savings measures, including air conditioning retrocommissioning, for the Keelikolani Building in which the DOTAX Oahu District Office is located.

FTZ: FTZ is working with DOT-Airports to prepare a RFP for solar electricity generation for its 5A roof in downtown Honolulu. At this time, FTZ is anticipating generating approximately 0.3MW.

HCDA: HCDA will incorporate energy savings devices and procedures in future developments as well as retrofit where appropriate.

HHFDC: HHFDC is ensuring that each Resident/Site Manager is made aware of the need to reduce energy consumption. A plan is being set in place that will instruct each Resident/Site Manager to insure that, wherever possible, CFL bulb and T-8 system replacements are used. Not only can they use the exposed coils, but there are covered bulbs for visible areas. This instruction will insure that all rental units readied for turnover will be equipped with applicable selections of CFL and fluorescent tubes.

Also, Resident/Site Managers will be instructing each new tenant of the advantages of personal energy conservation and to address the same in newsletters to all the residents. In addition, all appliances should be replaced at the end of their life cycle with those brands showing an ENERGY STAR rating for superior efficiency. This will have to be worked out with the State Procurement Office, as these appliances will not be the cheapest.

HHSC: HHSC plans to request CIP funds to implement as many energy reduction alternatives as possible.

HSPLS: HSPLS will continue to retrofit our libraries with energy efficient lighting through special HECO projects and library renovation projects. We tried to implement a performance contract for the lighting at all 51 public libraries but could not enlist the support of the DAGS Procurement office to conduct our request for proposal.

HTA-CC: HTA and HCC will continue to incorporate, whenever possible, energy savings devices and procedures in all future procurements and projects.

NELHA: As pointed out several times above, NELHA is not the master of its electricity costs; it is subject to the demands by its tenants for seawater, which requires electricity to pump and distribute. In 2005, an energy efficiency team from Chevron Energy Systems visited NELHA and ascertained its energy conversion and efficiency program at that time. The team reached the conclusion there were no efficiencies to be gained at NELHA; the facility was as efficient as it could be. However, assuming the procurement process ends up

successfully, NELHA intends to install electronic monitoring equipment at its pump stations in an effort to squeeze the last ounce of efficiency from its operations--using remote monitoring, for example, instead of visually checking pumps, production, and the like. This could possibly result in the termination of several employees and the resulting savings. It might also reduce the amount of overtime paid employees who respond to emergency outages due to pump failure, electrical grid frequency and/or voltage fluctuations and inconsistencies in grid deliveries, and other factors such as Acts of God (for example, earthquakes and the current requirement to manually restart pumps at a cost of time and one-half for our union employees).

Realistically, for that 93% of NELHA's energy costs attributable to its tenants' operations, the only way those can be reduced is if the tenants institute water saving measures. NELHA has asked tenants to do so, in an effort to contain their energy costs. However, most are not willing to conserve water. Reduction in tenant water usage, and therefore NELHA electrical usage to provide that water to tenants, likely will only occur by tenants going out of business due to the cost of the water, which is largely dependent on the cost to NELHA of the electricity to produce and distribute the water.

PSD: As mentioned earlier in this report, PSD will collaborate with DAGS-Division of Public Works to engage the services of an energy efficiency expert with familiarity of survey work performed at correctional facilities across the U. S. Mainland to: assess energy use of PSD facilities, statewide; evaluate the current condition of operating systems production and/or consumption of energy; analyze the various options available that would enable the Department to meet the goals set forth in Act 96; and make recommendations on the upgrade pathways with priority setting, project work scope and opinions of probable costs.

UH: At an April 10, 2007 campus ceremony, UH Manoa formalized an energy partnership with Hawaiian Electric Company, launching an aggressive effort to achieve energy savings goals. The goals are: 1) a 30% reduction of campus-wide energy use by 2012 (based on a 2003 campus energy benchmark); 2) a 50% reduction of campus-wide energy use by 2015 (based on the 2003 campus energy benchmark); 3) a 25% increase in campus-wide renewable sources of energy use by 2020; and 4) self-sufficiency in energy and water use by 2050 through adoption of renewable energy technologies. The university will also be able to treat and transform its wastes into useable resources through conservation and recycling.

At UH Hilo, a 30 kW PV system for the new Sciences & Technology Building is currently out to bid and a 10 kW system has been installed at a group of portable buildings on campus.

The Maui CC campus is negotiating an agreement with the campus sustainable technology program to use their classes, students and interns to connect all building sub-meters to the campus energy management system. This will allow them to monitor the kWh consumption by building; then to identify areas of unusually high consumption, identify the cause for high consumption and, as a result, implement corrections.

The community colleges are in discussion with various third parties regarding participation in a photovoltaic power purchase program. The third party will install the PV system at no cost and, in return, the colleges will purchase the electricity generated by the PV system at a guaranteed rate lower than the local utility rate. There are no specific new plans for the Honolulu, Kapiolani, Leeward, Windward, Hawaii, or Kauai community colleges at this time.

DHHL Vehicle Inventory
FY 2008

Oahu Vehicles

License Plate	Model	Vehicle Description	Serial Number	Model Year	Acquisition Cost	Mileage	As of Date	gallons per 100 miles (fuel economy)	average	actual fuel consum. (gal)	fuel
SH7297	Chevy	Van passenger	2GNEG25H8N4132080	1992	\$17,053.04	147,486	8/30/2007	6.667/5	5.84	8613.18	gasoline87
SH9412	Chevy	Corsica	1G1L055MISY264061	1995	\$5,900.00	62,865	8/30/2007	4.762/3.448	4.11	2583.75	gasoline87
SH9110	Ford	Ranger	1FTCR10U2NUDO6502	1992	\$4,500.00	87,320	8/30/2007	5.882/4.762	5.32	4645.42	gasoline87
SHB577	Ford	Explorer 4x4	1FMZU62K75ZA32343	2005	\$24,460.42	23,450	8/30/2007	7.143/5	6.07	1423.42	gasoline87
SHB268	Chevy	Tahoe	3GNEK18RXVG164830	1997	\$8,000.00	66,158	8/30/2007	7.692/5.882	6.79	4492.13	gasoline87

Maui Vehicles

License Plate	Model	Vehicle Description	Serial No.	Model Year	Acquisition Cost	Mileage	As of date	gallons per 100 miles (fuel economy)	average	actual fuel consum. (gal)	fuel
SH8652	Jeep	Cherokee SUV	1J4FJ28S3VL578912	1997	\$23,812.35	56,151	8/23/2007	6.667/5	5.84	3279.22	gasoline 87

Kauai Vehicles

License Plate	Model	Vehicle Description	Serial Number	Model Year	Acquisition Cost	Mileage	As of Date	gallons per 100 miles (fuel economy)	average	actual fuel consum. (gal)	fuel
SH9218	Ford	Ford MPVH Explorer 4x4	1FMZU1	1999	\$24,943.59	28,298	8/23/2007	6.667/5	5.97	1689.39	gasoline87

DHHL Vehicle Inventory
FY 2008

Molokai Vehicles

License Plate	Model	Description	Serial No.	Model Year	Acquisition Cost	Mileage	As of Date	gallons per 100 miles (fuel economy)	average fuel consump. (gal)	fuel
SH8310	Ford	Explorer 4x4	1FMDU34X8SUC34215	1995	\$24,424.04	109,306	8/1/2006	6.667/5.263	5.97	6525.57 gasoline
SH8369	Chevy	Cargo truck 2	1GCGD34J4EF343955	1984	\$1,600.00	141929	8/1/2006	n/a		diesel
SH8558	GMC	GMC dump truck	1GDP7H1J0VJ501905	1997	\$55,434.00	24880	7/31/2006	n/a		diesel
SH9067	GMC	Pick up truck	2GDBGK29K9K1562569	1989	\$23,916.43	173121	8/1/2006	5.882/4.545	5.22	9036.92 gasoline
SHA305	Chevy	Silverado 4x4	1GBHK24U52E113017	2002	\$32,490.00	86258	7/28/2006	7.143/5.882	6.52	5624.02 gasoline
SHA907	Ford	Explorer 4x4	1FMZU72K24ZA03031	2004	\$26,051.43	39217	8/1/2006	5.263/5	5.13	2011.83 gasoline
SHC230	Ford	Ford pick up	1FTNF21566EC86474	2006	\$24,355.97	13750	7/28/2006	6.667/5	5.84	803 gasoline

West Hawaii Vehicles

License Plate	Model	Vehicle Description	Serial No.	Model Year	Acquisition Cost	Mileage	As of Date	gallons per 100 miles (fuel economy)	average fuel consump. (gal)	fuel
SHC612	Ford	Escape	1FMCU93167KA15624	2007	-	3658	8/23/2007	7.143/5.556	6.35	2322.8 gasoline
SH9064	Chevy	4x4 pick up truck	1GCGK24R9WE252855	1998	\$25,088.95	82383	8/23/2007	6.667/5	5.84	4811.17 gasoline
SH9054	GMC	Dump truck	1WBUCJF8GH	1986	\$13,166.04	46787	8/23/2007	6.667/5	5.84	2732.36 gasoline
SHB591	Chrysler	1500 Quad cab	1D7HU18N45J516396	2005	\$26,568.59	58017	8/23/2007	7.143/5.556	6.35	3684.08 gasoline
SH8514	Chevy	Flatbed truck	1GBHK34J4VF008123	1997	\$30,449.95	50567	8/23/2007			gasoline
SH847	SnowBr	Trailer	2SWUW11456260072	2005		no mileage		n/a		gasoline

East Hawaii Vehicles

License Plate	Model	Description	Serial No.	Model Year	Acquisition Cost	Mileage	As of Date	gallons per 100 miles (fuel economy)	average fuel cons. (gal)	Fuel
SHA154	Mercury	Mountaineer	4M2ZU76E11UJ09823	2002	\$24,999.01	49875	8/23/2007	6.667/5.263	5.97	2977.54 gasoline -87
SHB897	Toyota	Tacoma 4x4	5TEUU42N55Z122690	2005	\$24,778.06	17352	8/23/2007	5.882/4.762	5.32	923.13 gasoline -87

DLNR ENERGY CONSUMPTION FOR FY 2007 in Kilowatt Hours (KWH)

Division	Vendor	KWH 2005	KWH 2006	KWH 2007	2005-06 rates	2005 Cost	2006 cost
Land - Kauai	KIUC		367*	365*	-		
ENG - Oahu	HECO			0 - faulty meter			
ENG - Maui	MEC		17,165	21,278	7,200		
DAR - Oahu	HECO		373,050	365,460	25,902	\$4,459	\$5,528
DAR - Hawaii	HELCO		7,442**	17,566	370,525	\$64,985	\$63,663
DAR - Kauai	KIUC		2,319	1,588	17,153	\$2,099	\$4,954
DBOR - Oahu	HECO		910,605	1,030,368	34.82	\$807	\$553
DBOR - Hawaii	HELCO		120,252	125,937	17.42	\$158,627	\$179,490
DBOR - Kauai	KIUC		104,364	92,583	28.2	\$33,911	\$35,514
DBOR - Maui	MEC		97,659	101,059	34.82	\$36,340	\$32,237
DOFAW - Kauai	KIUC		578,986	72,672	25.98	\$25,372	\$26,255
DOFAW - Hawaii	HELCO		216,960	235,174	34.82	\$201,603	\$25,304
DOFAW - Maui	MEC	-		-	28.2	\$61,183	\$66,319
DOFAW - Lanai	MEC		101,889	110,778	25.98		
DOFAW - Molokai	MEC	-		-	34.3	\$34,948	\$37,997
DOFAW - Staff Offices Oahu	HECO		44,098	48,952	34.3		
DOCARE - Staff Offices Oahu	HECO		65,469	67,237	17.42	\$7,682	\$8,527
DOCARE - Hawaii	HELCO		44,863	49,848	17.42	\$11,405	\$11,713
DOCARE - Kauai	KIUC		3,499	3,029	28.2	\$12,651	\$14,057
DOCARE - Maui	MEC		29,598	37,897	34.82	\$1,218	\$1,055
PARKS - Oahu	HECO		538,793	478,385	25.98	\$7,690	\$9,846
					17.42	\$93,858	\$83,335

DLNR ENERGY CONSUMPTION FOR FY 2007 in Kilowatt Hours (KWH)

Division	Vendor	KWH 2005	KWH 2006	KWH 2007	2005-06 rates	2005 Cost	2006 cost
PARKS - Hawaii	HELCO	155,284	167,235	183,706	28.2	\$43,790	\$47,160
PARKS - Kauai	KIUC	236,724	250,696	220,993	34.82	\$82,427	\$87,292
PARKS - Maui	MEC	66,671	64,939	67,496	25.98	\$17,321	\$16,871
KIRC - Maui	MEC	68,674	90,633	85,578	25.98	\$17,842	\$23,546
Total		3,776,922	3,433,314	2,834,669		\$920,218	\$781,217
		(LAND not included)			(LAND not included)		

*Determined in FY 06 that Land Division was not required to report as their offices are in State Buildings.

**DAR - Hawaii data for FY 05 is only for 9 months, the other 9 months DAR Hawaii was in a different facility and did not make payments directly to HELCO.

DOT-Airports new and existing building improvement projects for LEED certification and commissioning

<u>No.</u>	<u>Project</u>	<u>Budget</u>	<u>Energy</u>	<u>Remarks</u>
1	Honolulu International Airport, Terminal Modernization, New Mauka Concourse Improvement, Oahu	\$ 7,340,000.00	Estimated saved energy 2,000,000 kwh /yr, (at \$0.15/kwh) saving \$300,000.	<ul style="list-style-type: none"> •New construction will extend airport terminal building, LEED silver standard. •Estimated 30% energy savings compared to a conventional design. •Project will be in planning and design phase for two years. •Savings will not take effect until construction completed, approx. in four years.
2	Renovation of Airport Lounge, Honolulu International Airport, Oahu	\$ 1,200,000.00	Estimated saved energy 3750 kwh /yr, (at \$0.15/kwh) saving \$ 562.50	<ul style="list-style-type: none"> •Interior renovation project will have commissioning and LEED CI silver standard. •Estimated 15% energy savings compared to a conventional design. •Project is in design phase now, construction for next fiscal year. •Savings will not take effect until construction completed, approx. in 1-1/2 years.
3	Kona International Airport, Terminal Modifications, Hawaii	\$ 6,460,000.00	Estimated saved energy 2,000,000 kwh/yr, (at \$0.22/kwh) saving \$440,000	<ul style="list-style-type: none"> •New construction airport terminal building, LEED Silver standard. •Estimated 30% energy savings compared to conventional design. •Project is in planning and design phase. •Savings will not take effect until construction completed, approx. in four to six years.
4	Molokai Airport Aircraft Rescue Fire Fighters (ARFF) Station Improvements, Molokai	\$ 700,000.00	Estimated saved energy 150,000 kwh/yr, (at \$0.208/kwh) saving \$31,200.	<ul style="list-style-type: none"> •New construction, LEED Silver standard, •Estimated 20% energy savings compared to conventional design. •ARFF station houses fire fighters 24/7 and shelter equipment and vehicles. •Project is in planning and design phase. • Savings will not take effect until construction completed, approx. in four to five years.
5	Honolulu International Airport, Photovoltaic projects		Total area 690,000 sqft	PV panels to be located at parking structure and terminal roof area
6	Kona International Airport, Photovoltaic projects, Hawaii		Total area 920,000 sqft	PV panels to be located at parking lots and south ramp tie downs area
7	Lihue Airport, Photovoltaic projects, Kauai		Total area 839,000 sqft	PV panels to be located at parking lots, terminal roofs, cargo roofs, and T-hanger roofs.
8	Kalaheo Airport, Photovoltaic projects, Oahu		Total area 366,000 sqft	PV panels to be located at T-hanger roofs and tie downs area
9	Molokai Airport, Photovoltaic projects, Molokai, Maui		Total area 15,000 sqft	PV panels to be located at terminal roof area
10	Lanai Airport, Photovoltaic projects, Lanai, Maui.		Total area 20,000 sqft	PV panels to be located at terminal roof area

Appendix 4. DOT-Airports Transportation Vehicles and Fuel Data

Location (Island)	Sub unit (VIP, OMF, etc.)	VEHICLE TYPE	YEAR	MAKE, MODEL, VIN	License Plate	GVWR	Vehicle Acquisition Cost	FUEL CONFIG	FUEL USAGE	TYPE FUEL	EPA RATED MPG	VEHICLE MILEAGE	VEHICLE FUEL USED	AVERAGE VEHICLE MPG
12335	170 LTRK	1991	TRUCK PU/CHEV 1/2T 1GDCD14H3LZ213828	SH4450			\$13,772.36							#DIV/0!
12335	170 HTRK	1983	TRUCK DODGE DUMP 1B6WD34T5CS280905	SH4904			\$15,105.24							#DIV/0!
12335	170 LTRK	1991	TRUCK PU/CHEV 1/2T 1GCDK14HXMZ129253	SH5496			\$19,177.06							#DIV/0!
12335	180 LTRK	1991	TRK PU/FORD F150 1FTEF14N3MKA35321 A	SH5500			\$22,396.00							#DIV/0!
12335	170 LTRK	1994	TRUCK PU/CHEV 1/2T 1GDCD14H5RZ130931	SH6528			\$16,452.95							#DIV/0!
12335	170 LTRK	2007	TRUCK PU/CHEV 1GCEK14XZ7Z150301	SHC674			\$27,463.00							#DIV/0!
12335	170 LTRK	2007	TRUCK PU/CHEV 1GCEK14Z17Z150106	SHC675			\$27,463.00							#DIV/0!
12345	180 LTRK	1979	TRK PU/CHEV AIR-M 92-03, COT248Z190101	SH2520			\$5,851.29							#DIV/0!
12356	170 LTRK	1989	TRUCK FORD F-350 1FDJF37H2KKB15038	SH4438			\$16,594.00							#DIV/0!
12356	180 LTRK	1991	TRUCK PU/FORD F150 1FTEF14N1MKA35320 A	SH4453			\$19,486.00							#DIV/0!
12356	170 LTRK	1991	TRUCK CHEV 1/2T 1GCDK14H1MZ130503	SH4457		32000	\$18,535.39							#DIV/0!
	Hilo						\$121,811.72	Diesel	Diesel	Diesel		1754.6	427.1	4.1
	Hilo						\$32,247.71	E-85	Gas	E-10	14/18	6455	386.1	16.7
	Hilo						\$9,677.40	Gas	Gas	E-10		5531	315.5	17.5
	Hilo						\$9,677.40	Gas	Gas	E-10		6577.6	390.1	16.9
	Hilo						\$22,240.00	Gas	Gas	E-10		broken	582.8	#VALUE!
	Hilo						\$21,333.87	Gas	Gas	E-10		broken	446.4	insuff data
	Hilo						\$23,735.03	Gas	Gas	E-10		33378.5	746.4	insuff data
	Hilo						\$19,085.00	Gas	Gas	E-10		11878.1	450.7	26.4
	Hilo						\$35,295.00	Gas	Gas	E-10		59292	372.2	159.3
	Hilo						\$9,725.00	Gas	Gas	E-10		7057.3	545.8	12.9
	Hilo						\$14,260.33	Gas	Gas	E-10		1779	54.1	insuff data
	Hilo						\$18,450.00	Gas	Gas	E-10		7733	407.6	19.0
	Hilo						\$35,001.75	Gas	Gas	E-10		1496	219	6.8
	Hilo						\$30,813.34	Gas	Gas	E-10		1868	188.6	9.9
	Kona						\$44,512.60	Diesel	Diesel	Diesel		2365	111	21.3
	Kona						\$8,123.30	Diesel	Diesel	Diesel		No Mileage	7.5	#VALUE!
	Kona						\$7,400.00	Diesel	Diesel	Diesel		1435.9	210.7	6.8
	Kona						\$30,963.92	Diesel	Diesel	Diesel		5807	384.9	15.1
	Kona						\$159,894.81	Diesel	Diesel	Diesel		306.3	213.3	1.4
	Kona						\$34,267.17	Diesel	Diesel	Diesel		1409.2	327.7	4.3
	Kona						\$15,411.48	Gas	Gas	E-10		1363.7	298.5	4.6
	Kona						\$13,716.67	Gas	Gas	E-10		3551	326	10.9
	Kona						\$22,303.32	Gas	Gas	E-10		1499	162	9.3
	Kona						\$21,557.98	Gas	Gas	E-10		2580	222.6	11.6
	Kona						\$22,910.05	Gas	Gas	E-10		166.3	69.1	2.4
	Kona						\$17,201.60	Gas	Gas	E-10		679.7	175.9	3.9
	Kona						\$2,825.00	Gas	Gas	E-10		671.7	123.5	5.4
	Kona						\$21,560.78	Gas	Gas	E-10		5143	345.2	#DIV/0!
	Kona						\$9,725.00	Gas	Gas	E-10		961	106.5	14.9
	Kona						\$7,900.00	Gas	Gas	E-10		5453	256	#REF!
	Kona						\$8,300.00	Gas	Gas	E-10		976	52.4	21.3
	Kona						\$19,277.44	Gas	Gas	E-10		8288.6	918.9	18.6
	Kona						\$36,695.68	Gas	Gas	E-10		3094	228.6	9.0
	Kona						\$21,722.08	Gas	E-10	Gas		8860	449.3	13.5
	Kona						\$27,287.68	Gas	Gas	E-10		889.6	87.7	19.7
	Kona						\$23,380.00	Gas	Gas	E-10				10.1
	Kona						\$103,111.93	Diesel	Diesel	Diesel		20676	6708	#DIV/0!
	Oahu						\$142,484.00	Diesel	Diesel	Diesel		21468	6456	3.1
	Oahu						\$142,484.00	Diesel	Diesel	Diesel		20136	6828	3.3
	Oahu						\$142,484.00	Diesel	Diesel	Diesel		20364	6828	2.9
	Oahu						\$142,484.00	Diesel	Diesel	Diesel		20364	6768	3.0

Appendix 4. DOT-Airports Transportation Vehicles and Fuel Data

Location (Island)	Sub unit (VIP, OMF, etc.)	VEHICLE TYPE	YEAR	MAKE, MODEL, VIN	License Plate	GVWR	Vehicle Acquisition Cost	FUEL CONFIG	FUEL USAGE	TYPE FUEL	EPA RATED MPG	VEHICLE MILEAGE	VEHICLE FUEL USED	AVERAGE VEHICLE MPG
Oahu	520 HTRK		1991	TRACTOR BUS 1C9CA2DS5LW077556 L-1856	SH4400		\$142,484.00	Diesel	Diesel	Diesel		21384	3780	5.7
Oahu	520 HTRK		1991	TRACTOR BUS 1C9CA2DS3LW077562 L-1862	SH4402		\$142,484.00	Diesel	Diesel	Diesel		20748	6360	3.3
Oahu	520 HTRK		1991	TRACTOR BUS 1C9CM2D2S4MW077565 L-1865	SH4404		\$142,484.00	Diesel	Diesel	Diesel		20616	6240	3.3
Oahu	OMF/EO		1989	TANKER WATER KEN JNKWL59XOKS525225	SH4437		\$87,412.00	Diesel	Diesel	Diesel		135	54	2.5
Oahu	OMF/EO		1991	TRUCK INTL DUMP 2MSFBG3R7L0038210	SH4440		\$71,031.44	Diesel	Diesel	Diesel				#DIV/0!
Oahu	OMF/EO		1991	TRUCK TRACTOR KEN 1KXDD20X2MS55716	SH4451		\$73,537.00	Diesel	Diesel	Diesel		1794	379.5	4.7
Oahu	OMF/EO		1991	TRUCK FORD F150 F150V6K64PTMVAO 1441	SH4454		\$34,880.60	Diesel	Diesel	Diesel		180	35	5.1
Oahu	OMB		1983	TRUCK INT AP 1HTAA1952CHA21031	SH4874		\$96,316.56	Diesel	Diesel	Diesel		DAGS	SPO	#VALUE!
Oahu	520 HTRK		1995	TRACTOR BUS #1C9M3ABS7R535716 L-2070	SH7120		\$197,985.00	Diesel	Diesel	Diesel		20580	6600	3.1
Oahu	520 HTRK		1995	TRACTOR BUS #1C9M3ABSORW535718 L-2072	SH7122		\$197,985.00	Diesel	Diesel	Diesel		20676	6636	3.1
Oahu	OMF/EO		1995	TRUCK FORD DUMP F800 1FDXF80EXSVA16909	SH7232		\$48,165.00	Diesel	Diesel	Diesel		1623	266.5	6.1
Oahu	OMB		1997	TRUCK GMC AERIAL 1GDM7H1J2VJ502749	SH8571		\$147,384.00	Diesel	Diesel	Diesel		201	119.5	1.7
Oahu	OMF/AM		2000	TRUCK CHEV TOW # 469586	SH9679		\$55,250.00	Diesel	Diesel	Diesel		14	3.5	4.0
Oahu	OMF/AM		2000	TRUCK CHEV FLAT BOOM # 459753	SH9680		\$43,625.00	Diesel	Diesel	Diesel				#DIV/0!
Oahu	Command		2001	TRUCK, CHEVROLET 2000, 1GBJG31R9Y121065	SH9829		\$68,778.05	Diesel	Diesel	Diesel		3	20	0.2
Oahu	105 HTRK		2001	HANDI VAN 2000, LT-250 BUS, 1FDSE35F4YH	SH9881		\$98,099.00	Diesel	Diesel	Diesel		53208	3391.4	15.7
Oahu	105 HTRK		2001	HANDI VAN 2000, LT-250 BUS, 1FDSE35F2YH	SH9898		\$98,099.00	Diesel	Diesel	Diesel		36060	2314.1	15.6
Oahu	125 HTRK		2002	BUS, 1994, FORD 1FDKE30G0RH02840	SH286		\$500.00	Diesel	Diesel	Diesel				#DIV/0!
Oahu	OMF/EO		2003	SWEeper INTL/ELGIN 4700 #534097	SHA382		\$125,671.70	Diesel	Diesel	Diesel		1857	482.5	3.8
Oahu	OMF/EO		2003	SWEeper JOHN 770 CYCLONE#H582061	SHA868		\$172,861.39	Diesel	Diesel	Diesel		139	75	1.9
Oahu	OMF/EO		2006	SWEeper TARRANT CENTURION 1GDM7F1305F516772	SHC165		\$214,581.96	Diesel	Diesel	Diesel		7913	2603.6	3.0
Oahu	OMF/EO		2006	SWEeper TARRANT CENTURION 1GDM7F1305F518151	SHC166		\$214,581.96	Diesel	Diesel	Diesel		8566	3417.3	2.5
Oahu	OMF/EO		2007	SWEeper TARRANT CENTURION #CENT-3192	SHC315		\$218,748.60	Diesel	Diesel	Diesel		4247	1349.7	3.1
Oahu	OMF/EO		2006	TRUCK FORD F350 CREW HEIL #B89214	SHC316		\$43,619.93	Diesel	Diesel	Diesel		4713	661.7	7.1
Oahu	103 SUV		2003	CHEVROLET TAHOE, 4 DR, #1GNEK13Z32R1873	SHA515		\$41,318.28	E-85	Gas	E-10		2547	206.5	12.3
Oahu	104 SUV		2003	FORD EXPLORER SPORT, 1FMZU77E93UA0431	SHA604		\$22,634.79	E-85	Gas	E-10		8619	671.7	12.8
Oahu	OMF/OEL		2005	TRUCK FORD EXPLORER 4DR #A28828	SHB592		\$32,810.97	E-85	Gas	E-10		10169	724.1	14.0
Oahu	OMF/LB		2005	TRUCK DODGE RAM 1500 #56399	SHB623		\$29,165.44	E-85	Gas	E-10		5786	676.1	8.6
Oahu	315 SUV		2006	JEEP CHEROKEE 1JF4TJ28S0WL239641	SHB972		\$6,200.00	E-85	Gas	E-10				#DIV/0!
Oahu	OMB		2006	SUV DODGE DURANGO 4X4 #1D4AB38P46F178177	SHC236	6625	\$31,680.01	E-85	Gas	E-10	14/18	851	87	9.8
Oahu	OMF		2006	SUV DODGE DURANGO 4X4 #1D4HB38P66F178178	SHC237	6625	\$31,680.01	E-85	Gas	E-10	14/18	3372	350.9	9.6
Oahu	OMB		2006	SUV DODGE DURANGO 4X4 #1D4HB38P26F178176	SHC286	6625		E-85	Gas	E-10	14/18	5936	483.1	12.3
Oahu	OCU		1999	VAN DODGE CARAVAN 2B4GP44G3XR410524	SHC301			E-85	Gas	E-10		8237	772.7	10.7
Oahu	OCU		1999	VAN DODGE CARAVAN 2B4GP44G3XR410524	SHC302			E-85	Gas	E-10		6308	764.3	8.3
Oahu	110 VAN		1999	VAN DODGE CARAVAN 2B4GP44G8XR411586 '99	SHC303		\$5,500.00	E-85	Gas	E-10		2001	162	12.4
Oahu	OMB		1998	Truck, Ford Ranger 1FTYR10V2XJA36382	SHC305			E-85	Gas	E-10		1354	122	11.1
Oahu	OME		1999	TRUCK, 1999, FORD, 1FTYR10V5XPB58636	SHC422		\$5,000.00	E-85	Gas	E-10		984	69	14.3
Oahu	OMF/EO		2006	TRUCK, 2006, DODG, 1D7HA16P96J171039	SHC531		\$28,769.61	E-85	Gas	E-10		2278	329	6.9
Oahu	125 SUV		2006	SUV, 2006, DODG, 1D4HB38P86F178179	SHC532	6625	\$59,692.33	E-85	Gas	E-10	14/18	5858	552.1	10.6
Oahu	OME		1998	TRUCK, 1998, FORD, Ranger 1FTYR10VXXPB58633	SHC594		\$5,000.00	E-85	Gas	E-10		4600	7	657.1
Oahu	OMB		2007	SUV 2007 DODGE 1D8HB38P97512611	SHC676	6625	\$35,899.06	E-85	Gas	E-10	14/18	210	23.5	8.9
Oahu	400 SUV		2007	SUV 2007 DODGE 1D8HB38P97512610	SHC677	6625	\$35,899.06	E-85	Gas	E-10	14/18			#DIV/0!
Oahu	DEP-A		2007	MPVH DODGE VIN 1D8HD38P87F512477	SHC695	6625	\$51,679.88	E-85	Gas	E-10	14/18	222	17	13.1
Oahu	OMB/PS		2007	TRUCK, CHEV, 1/2 TON	SHC711			E-85	Gas	E-10		227	20.2	11.2
Oahu	110 VAN		1993	VAN GMC SAFARI XT 1GKDM19Z4NB546331	SH4049		\$17,979.95	Gas	Gas	E-10		1069	102.5	10.4
Oahu	100 SWGN		1979	WAGON STN, 4DR CHEV, MALIBU 1T35H9Z4157	SH4356		\$6,539.59	Gas	Gas	E-10				#DIV/0!
Oahu	OMB		1985	WAGON STN FORD 1FABP44F2EZ184232	SH4364		\$10,328.84	Gas	Gas	E-10		2542	253	10.0
Oahu	110 SWGN		1987	SW CHEV CELEBRITY 1G1AW81W486180038	SH4379		\$12,082.56	Gas	Gas	E-10		815	55.8	14.6
Oahu	OMF/LS		1988	WAGON STN FORD 1FABP55U1JG192119	SH4381		\$13,451.73	Gas	Gas	E-10		361	37.5	9.6
Oahu	OMB		1992	WAGON STA FORD 1FACP55U5NG188181	SH4408		\$18,260.48	Gas	Gas	E-10		548	41	13.4
Oahu	Division		1993	WGN STN CHEV 1G1JC8449N7323946	SH4817		\$11,310.90	Gas	Gas	E-10		2184	113	19.3
Oahu	OKA/ADM		1990	AUTO CHEV 1G1AW51W0K624888	SH4819		\$20,449.94	Gas	Gas	E-10				#DIV/0!

Appendix 4. DOT-Airports Transportation Vehicles and Fuel Data

Location (Island)	Sub unit (VIP, OMF, etc.)	VEHICLE TYPE	YEAR	MAKE, MODEL, VIN	License Plate	GVWR	Vehicle Acquisition Cost	FUEL CONFIG	FUEL USAGE	TYPE FUEL	EPA RATED MPG	VEHICLE MILEAGE	VEHICLE FUEL USED	AVERAGE VEHICLE MPG
Oahu	OME	SWGN	1991	WAGON STA CHEV, 2G1AW84T6L2116485	SH4824		\$18,418.00	Gas	Gas	E-10				#DIV/0!
Oahu	100	SWGN	1989	WAGON CHEV CELEBRITY 1G1AW81W2J6260928	SH4826		\$13,348.57	Gas	Gas	E-10				#DIV/0!
Oahu	OMF/EO	LTRK	1991	TRUCK CHEV CAB/DUMP 1GBHR33K8MF300447	SH4830		\$20,592.00	Gas	Gas	E-10				#DIV/0!
Oahu	OMF/AM	LTRK	1987	TRUCK FORD P/U 1FTDF15NXPB32162	SH4861		\$10,269.64	Gas	Gas	E-10		0		0
Oahu	OMF/EO	LTRK	1985	TRUCK CHEV P/U, 1GCC14D1EJ175415	SH4871		\$8,264.88	Gas	Gas	E-10		1329	149.5	8.9
Oahu	OMB	LTRK	1982	TRUCK FORD 1FTGFC10E3CRA17954	SH4875		\$10,684.93	Gas	Gas	E-10		456	55.3	8.2
Oahu	Division	LTRK	1991	TRK CHEV P/U S10 1GCCS14Z3M8192740	SH4884		\$12,395.87	Gas	Gas	E-10		2444	176	13.9
Oahu	OMB	LTRK	1991	TRUCK CHEV P/U 2GCEC19Z1L1239179	SH4885		\$17,798.00	Gas	Gas	E-10		1601	115	13.9
Oahu	Division	LTRK	1991	TRK CHEV P/U S10 1GCCS14Z2M8192731	SH4886		\$12,395.87	Gas	Gas	E-10		2426	162.5	14.9
Oahu	OMF/AM	LTRK	1991	TRUCK CHEV U/BODY 1GBGC24K9ME119952	SH4887		\$19,218.81	Gas	Gas	E-10		1350	172.5	7.8
Oahu	OMB	LTRK	1991	TRUCK CHEV U/BODY 1GDCD14H3LZ226824	SH4888		\$15,174.00	Gas	Gas	E-10		3652	298.5	12.2
Oahu	OCU	LTRK	1991	TRUCK P/U CREW CAB 1GTR33KXMF700484	SH4889		\$17,828.69	Gas	Gas	E-10		3652	298.5	12.2
Oahu	315	LTRK	1991	TRUCK-CHEV 1GNDT13Z4M2218954	SH4890		\$21,542.00	Gas	Gas	E-10				#DIV/0!
Oahu	OMF/LB	LTRK	1993	TRUCK GMC P/U 1GTEK14Z9N2535684	SH4892		\$18,625.95	Gas	Gas	E-10		847	148.5	5.7
Oahu	OMB	LTRK	1993	TRUCK GMC P/U 1GTD14Z7N2537684	SH4893		\$15,145.00	Gas	Gas	E-10		2392	220.5	10.8
Oahu	OMB	LTRK	1993	TRUCK CHEV P/U 1GDCD14Z2XNZ03178	SH4894		\$16,409.28	Gas	Gas	E-10		1032	74.5	13.9
Oahu	OMB	LTRK	1989	TRUCK DODGE P/U 1B7FN14XOJS735902	SH4896		\$13,429.30	Gas	Gas	E-10		1644	151.5	10.9
Oahu	OMF/LS	LTRK	1991	TRUCK GMC PU 1GTC514EXM8512651	SH4897		\$10,566.00	Gas	Gas	E-10		887	69	12.9
Oahu	OMF/LS	LTRK	1991	TRUCK CHEV P/U 1GCCS14E6M8142797	SH4898		\$13,180.00	Gas	Gas	E-10		2046	132.5	15.4
Oahu	OMB	LTRK	1989	TRUCK CHEV P/U 1GDCD14H5JZ270692	SH4899		\$13,140.62	Gas	Gas	E-10		0		#DIV/0!
Oahu	OME	LTRK	1989	TRUCK CHEV P/U 1GTC514R7J8205131	SH4900		\$10,762.57	Gas	Gas	E-10		477	30	15.9
Oahu	OCU	LTRK	1988	TRUCK FORD P/U 1FTFF25HXP97388	SH4901		\$14,734.42	Gas	Gas	E-10		78	22	3.5
Oahu	OCU	LTRK	1988	TRUCK FORD P/U 1FTFF25HHPA97387	SH4902		\$14,558.38	Gas	Gas	E-10		854	73.5	11.6
Oahu	LTRK	LTRK	1989	TRUCK CHEVEROLET PICK UP	SH5402		\$5,925.00	Gas	Gas	E-10		1189	115.5	10.3
Oahu	240	SEDAN	1993	SEDAN CHEV LUMINA 2G1WN54T9N9269253	SH5492		\$16,249.00	Gas	Gas	E-10		1330	90.7	14.7
Oahu	100	SWGN	1980	WAGON STN CHEV 1T35JAZ405238	SH5493		\$7,883.44	Gas	Gas	E-10		3363	473	7.1
Oahu	OMF/LS	LTRK	1994	TRUCK GMC SIERRA #1GTG33KXPJ749901	SH6112		\$20,649.50	Gas	Gas	E-10		3270	389	8.4
Oahu	OMF/LS	LTRK	1994	TRUCK GMC SIERRA #1GTG33K4P5749859	SH6114		\$20,649.50	Gas	Gas	E-10		25915	1179.3	22.0
Oahu	OMB	LTRK	1994	TRUCK GMC COU P/U#1GDKG29K3PE556773	SH6324		\$23,259.00	Gas	Gas	E-10		6584	685.1	9.6
Oahu	OMF/LS	LTRK	1994	TRUCK GMC TC P/U#1GTEC19H3PE556716	SH6326		\$16,908.40	Gas	Gas	E-10				#DIV/0!
Oahu	OCU	VAN	1994	VAN FORD 1FMEET1H7PHB23772	SH6339		\$14,019.00	Gas	Gas	E-10				#DIV/0!
Oahu	330	SUV	1994	TRUCK 83 CHEVY BLAZER 1G8ED18J1EF103438	SH6865		\$1,600.00	Gas	Gas	E-10		9168	912.7	10.0
Oahu	OMB	LTRK	1995	TRUCK CHEV P/U 1GDCD14H3RZ259279	SH7257		\$17,543.89	Gas	Gas	E-10		1602	164.5	9.7
Oahu	OMF/AM	LTRK	1995	TRUCK CHEV P/U 1GDCD14H1RZ259040	SH7258		\$17,543.89	Gas	Gas	E-10		848	142.5	6.0
Oahu	OMF/LB	LTRK	1995	TRUCK CHEV P/U 1GDCD14Z0JZ244915	SH7371		\$6,100.00	Gas	Gas	E-10				#DIV/0!
Oahu	100	LTRK	2000	TRUCK, 1985, CHEVY 1GVJK34W7FV205555	SH7710		\$10,000.00	Gas	Gas	E-10		4895	334.2	14.6
Oahu	OMF/LS	LTRK	2000	TRUCK GMC P/U ALTR. #123335	SH7712		\$15,869.36	Gas	Gas	E-10		1360	112	12.1
Oahu	OMF/AM	LTRK	1995	TRUCK CHEV P/U S-10 1GCCS14Z3K8215141	SH7787		\$4,900.00	Gas	Gas	E-10		2745	166.3	16.5
Oahu	OM/OS	SEDAN	1995	SEDAN OLD CIERA 4DR 1G3AG55M5R6430433	SH7933		\$16,539.95	Gas	Gas	E-10		3098	275	11.3
Oahu	OME	LTRK	1995	TRUCK CHEV P/U 3/4 1GFCF24K4SZ112338	SH7988		\$19,199.00	Gas	Gas	E-10		2466	222.5	11.1
Oahu	OMF/LS	LTRK	1995	TRUCK CHEV P/U #1GDCD14ZXXZ232708	SH8055		\$6,200.00	Gas	Gas	E-10		4500.7	679	6.6
Oahu	OMF/LB	LTRK	1995	TRUCK FORD F350 1FTJW35H5SEA26906	SH8056		\$24,639.01	Gas	Gas	E-10		6195	699.7	8.9
Oahu	OMB	LTRK	1995	TRUCK FORD FLATBED 1FTJW35H7SEA10470	SH8057		\$29,160.54	Gas	Gas	E-10		2629	373.4	7.0
Oahu	OMF/LS	LTRK	1995	TRUCK FORD P/U 1FTJW35H8SEA26905	SH8058		\$28,542.11	Gas	Gas	E-10		9219	1095.2	8.4
Oahu	OMF/LB	LTRK	1995	TRUCK CHEV P/U RACK #1GGCC33K1SF001049	SH8080		\$26,043.51	Gas	Gas	E-10		3484	459.4	7.6
Oahu	OMF/LS	LTRK	1995	TRUCK CHEV P/U #1GGCC33K1SF001016	SH8081		\$26,043.51	Gas	Gas	E-10		3719	470	7.9
Oahu	OMB	LTRK	1995	TRUCK FORD 250 COUP 1FTX26H2SKC15782	SH8195		\$32,736.26	Gas	Gas	E-10		3746	336.9	11.1
Oahu	OMB	LTRK	1995	TRUCK FORD 350 1FTJW35H1SEA77078	SH8199		\$32,714.28	Gas	Gas	E-10		5239	523.5	10.0
Oahu	OMB	LTRK	1995	TRUCK FORD P/U 1FTJW35H9SEA63574	SH8200		\$28,785.21	Gas	Gas	E-10		2395.9	303.5	7.9
Oahu	OMF/LS	LTRK	1995	TRUCK FORD P/U 1FTJW35H2SEA77073	SH8201		\$25,267.82	Gas	Gas	E-10		5835	470.1	12.4
Oahu	OMB	LTRK	1996	TRUCK CHEV P/U C10F5 1GDCD14Z6KZ233550	SH8282		\$5,400.00	Gas	Gas	E-10		1393	90.5	15.4
Oahu	OMB	SEDAN	1996	SEDAN FORD TEMPO 1FACP36X2PK174767	SH8314		\$5,200.00	Gas	Gas	E-10				

Appendix 4. DOT-Airports Transportation Vehicles and Fuel Data

Location (Island)	Sub unit (VIP, OMF, etc.)	VEHICLE TYPE	YEAR	MAKE, MODEL, VIN	License Plate	GVWR	Vehicle Acquisition Cost	FUEL CONFIG	FUEL USAGE	TYPE FUEL	EPA RATED MPG	VEHICLE MILEAGE	VEHICLE FUEL USED	AVERAGE VEHICLE MPG
Oahu	OMF/LS	LTRK	1996	TRUCK CHEV 1500 1GDCD142KZ229321	SH8315		\$4,500.00	Gas	Gas	E-10		2243	320.5	7.0
Oahu	OMF/LS	SEDAN	1996	SEDAN FORD TEMPO 1FACP36X7PK160752	SH8321		\$5,200.00	Gas	Gas	E-10		2101	138.5	15.2
Oahu	Division	SEDAN	1996	CHEV 4DSD 1G1JC5246V7136732	SH8476		\$13,041.61	Gas	Gas	E-10		3262	162.5	20.1
Oahu	Division	VAN	1996	VAN PASSENGER CHEV 1GNDM19WXB139106	SH8477		\$20,129.56	Gas	Gas	E-10		2314	181	12.8
Oahu	OMF/AM	LTRK	1997	TRUCK CHEV CS-10 #1GCCS1446V8112112	SH8478		\$17,500.00	Gas	Gas	E-10		1750	152.9	11.4
Oahu	OMB	VAN	1997	VAN FORD BOOM 5.4L 1FTJE34LOVHA28854	SH8491		\$56,487.00	Gas	Gas	E-10		246	80.5	3.1
Oahu	Division	SEDAN	1997	FORD TAURUS 4DR WHITE 1FALP52UXVA281883	SH8650		\$16,971.76	Gas	Gas	E-10		1506	146.7	10.3
Oahu	OMB	LTRK	1997	TRUCK DODGE P/U D150 1B7GE16X7MS297546	SH8658		\$5,200.00	Gas	Gas	E-10		1061	108.5	9.8
Oahu	OMF/LS	VAN	1997	VAN DODGE RAM 250 #434035	SH8659		\$7,500.00	Gas	Gas	E-10		5100	872.3	5.8
Oahu	OMF/LS	LTRK	1997	TRUCK FORD P/U #VECO3723	SH8728		\$27,269.84	Gas	Gas	E-10		4753	950.5	5.0
Oahu	OMF/EO	LTRK	1998	TRUCK CHEV P/U 1GCHC34R2VF048768	SH8729		\$23,007.20	Gas	Gas	E-10		12292	1396.2	8.8
Oahu	OMB	LTRK	1997	TRUCK FORD P/U F250 1FDHX26H3VEC03722	SH8730		\$36,229.44	Gas	Gas	E-10		3760	686.6	5.5
Oahu	OMF/LB	LTRK	1998	TRUCK CHEV FLAT 1GBHC34R5VF054830	SH8773		\$27,295.00	Gas	Gas	E-10		2274	149.8	15.2
Oahu	Division	SWGN	1997	FORD 2DSW 2FMDA51U8WBB57680	SH8774		\$18,311.21	Gas	Gas	E-10		1485	89.5	16.6
Oahu	Division	SWGN	1997	FORD 2DSW 2FMDA51UXWBB57681	SH8776		\$18,311.21	Gas	Gas	E-10				#DIV/0!
Oahu	315 VAN	315 VAN	1998	VAN CHEV FR WACKENHUT 1GCDM19W0VB229969	SH8874		\$21,667.11	Gas	Gas	E-10				#DIV/0!
Oahu	315 VAN	315 VAN	1998	VAN CHEV FR WACKENHUT 1GCDM19W4VB229943	SH8875		\$21,667.11	Gas	Gas	E-10				#DIV/0!
Oahu	315 LTRK	315 LTRK	1998	P/U CHEV FR WACKENHUT 1GCCS144XWK114899	SH8876		\$13,599.17	Gas	Gas	E-10		104	36	2.9
Oahu	OMB	VAN	1998	VAN CHEV BUCKET #1GCHG39R2W101387	SH8905		\$49,218.43	Gas	Gas	E-10				insuff data
Oahu	Division	SEDAN	1998	FORD TAURUS-4DR 1FAFP52U1WG196328	SH8906		\$15,680.94	Gas	Gas	E-10		596	33.1	18.0
Oahu	OME	SEDAN	1998	WAGON STA HYUNDAI ELE #WU109447	SH8926		\$17,745.72	Gas	Gas	E-10		840	89	9.4
Oahu	501 VAN	501 VAN	1998	VAN CARGO FORD E-150 1FTRE1468WHB60537	SH9029		\$19,715.28	Gas	Gas	E-10				25 insuff data
Oahu	OMB	LTRK	1999	TRUCK GMC P/U XE509651	SH9187		\$34,292.96	Gas	Gas	E-10		4718	469.5	10.0
Oahu	OMB	LTRK	1999	TRUCK GMC P/U XE509651	SH9188		\$23,371.92	Gas	Gas	E-10		1185	118	10.0
Oahu	110 VAN	110 VAN	1999	VAN GMC SAFARI 7 PX 1GKDM19W5XB536318	SH9436		\$19,173.44	Gas	Gas	E-10		1393	113.2	12.3
Oahu	100 SUV	100 SUV	2000	MPVH,1999,JEEP 1J4FF28S2YL122051	SH9569		\$28,645.65	Gas	Gas	E-10		13005	592	22.0
Oahu	HDH	LTRK	2000	TRUCK, P/U CHEV 1GCCS14W6YK117111	SH9593		\$17,640.00	Gas	Gas	E-10		8043	577.1	13.9
Oahu	310 SHRF	310 SHRF	2000	CHEVROLET IMPALAS 2G1WF55E0Y9152168	SH9594		\$27,400.00	Gas	Gas	E-10		5929	435.5	13.6
Oahu	OMF/LS	LTRK	2000	TRUCK CHEV S-10 #K192338	SH9600		\$15,842.46	Gas	Gas	E-10				

Appendix 4. DOT-Airports Transportation Vehicles and Fuel Data

Location (Island)	Sub unit (VIP, OMF, etc.)	VEHICLE TYPE	YEAR	MAKE, MODEL, VIN	License Plate	GVWR	Vehicle Acquisition Cost	FUEL CONFIG	FUEL USAGE	TYPE FUEL	EPA RATED MPG	VEHICLE MILEAGE	VEHICLE FUEL USED	AVERAGE VEHICLE MPG
Oahu	200 LTRK		2000	TRUCK CHEV P/U #278836	SH9620		\$21,020.17	Gas	Gas	E-10		2854.7	347.7	#DIV/0!
Oahu	OMF/AM		2000	TRUCK GMC P/U UTILITY # 425112	SH9621		\$36,157.41	Gas	Gas	E-10		3285.7	214	15.4
Oahu	200 LTRK		2000	TRUCK FORD P/U CAB #K818517	SH9677		\$21,728.77	Gas	Gas	E-10		1024	134.5	7.6
Oahu	OCU		2001	TRUCK P/U 1GCGC33R1YF47889	SH9678		\$32,808.19	Gas	Gas	E-10		8070	1335.3	6.0
Oahu	OMF/LB		2001	TRUCK CHEV P/U #481787	SH9701		\$22,770.66	Gas	Gas	E-10		3341	186.6	17.9
Oahu	310 SEDAN		2000	FORD TAURUS LX 4DR,MODP52 1FAFP5221YG2	SH9794		\$31,093.42	Gas	Gas	E-10		9020	1294.8	7.0
Oahu	OMF/LB		2001	TRUCK FORD F350 CREW #51811	SH9929		\$30,322.68	Gas	Gas	E-10		4655	513	9.1
Oahu	HDH		2001	CAB CREW,FORD,SRW HX2AND VHF	SH9991		\$16,853.60	Gas	Gas	E-10		1625	121.2	13.4
Oahu	OMB		2003	TRUCK FORD RAN X P/U #1TYR14V02PB36000	SHA473		\$20,785.00	Gas	Gas	E-10		4117	524.3	#DIV/0!
Oahu	OMB		2003	VAN 02 CHEV ASTRO #1GCDM19XX2B150572	SHA499		\$20,785.00	Gas	Gas	E-10				#DIV/0!
Oahu	315 VAN		2005	VAN 02 CHEV ASTRO #1GCDM19XX2B150662	SHA500		\$7,500.00	Gas	Gas	E-10				#DIV/0!
Oahu	315 VAN		2005	Truck F-350 1FTWW30Y8EB15939	SHB959		\$7,500.00	Gas	Gas	E-10				#DIV/0!
Oahu	OCU		1999	TRUCK, 1999, DODG, 3B6KC26Z4XM580706	SHC418		\$7,500.00	Gas	Gas	E-10				#DIV/0!
Oahu	OMB		1999	TRUCK, 1999, DODG, 3B6KC26Z3XM580700	SHC419		\$5,500.00	Gas	Gas	E-10				#DIV/0!
Oahu	OMB		2007	VAN FORD, VIN,1FBSS31L7WHC07187	SHC420		\$5,500.00	Gas	Gas	E-10				#DIV/0!
Oahu	OCU		2004	SUV, 2004, Ford Explorer 1FMZU73KX4ZA61905	SHC565		\$24,821.98	Gas	Gas	E-10				#DIV/0!
Oahu	OM		2007	SUV SATURN VUE-6 #S824102	SHC662	4894	\$41,918.79	Gas	Gas	E-10	20/28			15.2
Oahu	170 LTRK		2007	TRUCK FORD CREW CAB W/DUMP 1FDWW37Y67EB	SHC697	13000		Gas	Gas	E-10		971	149.5	6.5
Oahu	OMB		2007	TRUCK, CHEV, 3/4 TON	SHC712			Gas	Gas	E-10		1977	278	7.1
Oahu	OMF/LB		2006	TRUCK FORD F-250 1998 #1FTRF27Z5WKB8822	SHB780		\$7,500.00	Prop/Gas	Gas	E-10		4410	429.5	10.3
Oahu	OM/SK		1998	Truck Ford F-250 1FTRF27Z0WKB88229	SHC103			Prop/Gas	Gas	E-10		3675	411.5	8.9
Oahu	OME		1998	Truck, F250 1FTRF27Z8XKC12553	SHC304			Prop/Gas	Gas	E-10		2499	294.5	8.5
Oahu	OMF		1998	Truck, F250 1FTRF27Z6WKB88218	SHC306			Prop/Gas	Gas	E-10		1024	99	10.3
Oahu	OMB		1998	Truck, F250 1FTRF27Z2WKB88216	SHC307			Prop/Gas	Gas	E-10		2338	213	11.0
Oahu	OMB		1998	TRUCK, 1998, FORD, 1FTRF27Z1WKB88224	SHC340		\$5,500.00	Prop/Gas	Gas	E-10		385	38	10.1
Oahu	OMB		1999	TRUCK, 1999, FORD, 1FTSW30L7XEB29918	SHC421		\$9,500.00	Prop/Gas	Gas	E-10		2193	263.6	8.3
Oahu	OMF/LS		1997	FORD TAURUS 4DR WHITE 1FALP52UXXVA281883	SH8650		\$16,971.76	Diesel	Diesel			186	10.5	17.7
Oahu	Division		1992	TRUCK INTL DUMP 1HTSCNML6NH412551	SH4831		\$40,259.84	Diesel	Diesel					#DIV/0!
182 HTRK			1991	TRUCK INTL DUMP 1HTSDZ7N9MH335254	SH4840		\$48,381.18	Diesel	Diesel					#DIV/0!
170 HTRK			1999	SWEeper ATHEY 1A9X27DK6WRO059009	SH9158		\$148,118.27	Diesel	Diesel					#DIV/0!
175 HTRK			2007	TRUCK #2NPRH2B67M731141, 8-CUBIC DUMP	SHC628		\$119,780.29	Diesel	Diesel					#DIV/0!
182 HTRK			1999	TRK FORD AERIAL BCKT 1FDYL90AXK/A38831	SH4841		\$143,455.00	Gas	Gas					#DIV/0!
171 SWGN			1991	STATION WAGON FORD 2FACP79F3MX119540	SH5490		\$26,196.00	Gas	Gas					#DIV/0!
186 SWGN			1991	STATION WAGON FORD #2FACP77F1MX138591	SH5491		\$25,398.00	Gas	Gas					#DIV/0!
100 LTRK			2002	TRUCK CHEVY P U 2002 1GCCS195628167902	SHA361		\$18,450.00	Gas	Gas					#DIV/0!
115 SWGN			1987	WAGON CHEV CELEBRITY 1G1AW81W1H6116975	SH4266		\$11,032.13							#DIV/0!
170 LTRK			1988	TRUCK P/U CHEV 1GCGVHKH5I58303	SH4339		\$18,556.84							#DIV/0!
180 SUV			1988	TRUCK FORD BRONCO II 1FMCU14T6HUC72273	SH4380		\$15,393.98							#DIV/0!
162 VAN			1991	VAN, FORD AEROSTAR 1FMDA31US5MZA18329	SH4403		\$20,570.00							#DIV/0!
111 VAN			1991	VAN CHEV ASTRO 1GNDM15Z2MB121908	SH4407		\$16,006.85							#DIV/0!
120 VAN			1991	VAN FORD AEROSTAR 1FMDA118NZA04964	SH4409		\$16,170.00							#DIV/0!
100 VAN			1991	VAN FORD AEROSTAR 1FMDA11UXNZA04965	SH4411		\$6,228.65							#DIV/0!
180 LTRK			1981	TRUCK P/U CHEV LUV AIR-M #01-02	SH4417		\$15,205.24							#DIV/0!
175 LTRK			1993	TRK DDG DUMP RAM350 1B6WD34T3CS280904	SH4422		\$17,223.11							#DIV/0!
180 LTRK			1985	TRUCK FORD F350 1FDHF38L4EKA83943	SH4429		\$17,217.99							#DIV/0!
179 LTRK			1987	TRUCK FORD 86 1FTHF261GPB29549	SH4422		\$9,678.33							#DIV/0!
172 LTRK			1987	TRUCK P/U FORD RANGER 1FTCR11T7GUC95179	SH4426		\$20,910.12							#DIV/0!
180 LTRK			1987	TRUCK P/U CHEV 1GCHK33J9G3166518	SH4429		\$14,248.00							#DIV/0!
175 LTRK			1988	TRK DODGE RAM250 4X4 1B7JW24W3HSA34541	SH4430		\$10,439.60							#DIV/0!
180 LTRK			1998	TRUCK DODGE RAM 150 #1B7GD14Y7J5718028	SH4433		\$13,772.36							#DIV/0!
170 LTRK			1991	TRUCK P/U CHEV 1/2T 1GDCD14H7LZ230598	SH4442		\$13,772.36							#DIV/0!
178 LTRK			1991	TRUCK P/U CHEV 1/2T 1GDCD14H8LZ231680	SH4443									#DIV/0!

Appendix 4. DOT-Airports Transportation Vehicles and Fuel Data

Location (Island)	Sub unit (VIP, OMF, etc.)	VEHICLE TYPE	YEAR	MAKE, MODEL, VIN	License Plate	GVWR	Vehicle Acquisition Cost	FUEL CONFIG	FUEL USAGE	TYPE FUEL	EPA RATED MPG	VEHICLE MILEAGE	VEHICLE FUEL USED	AVERAGE VEHICLE MPG
174 LTRK			1991	TRUCK PU CHEV 1/2T 1GDC14H9LZ230117	SH4444		\$13,772.36							#DIV/0!
178 LTRK			1991	TRUCK PU CHEV 1/2T 1GDC14H7LZ229998	SH4445		\$13,772.36							#DIV/0!
140 LTRK			1991	TRUCK PU CHEV 1/2T 1GDC14H9LZ230989	SH4447		\$13,772.36							#DIV/0!
175 LTRK			1991	TRUCK PU CHEV 1/2T 1GDC14H9LZ229615	SH4448		\$13,772.36							#DIV/0!
178 LTRK			1991	TRUCK PU CHEV 1/2T 1GDC14H6LZ230334	SH4449		\$13,772.36							#DIV/0!
175 LTRK			1991	TRUCK PU CHEV 1/2T 1GDC14H6MZ130027	SH4456		\$19,177.05							#DIV/0!
175 LTRK			1991	TRUCK PU CHEV 1/2T 1GCDK14H1MZ130985	SH4458		\$19,177.05							#DIV/0!
175 LTRK			1991	TRUCK PU CHEV 1/2 T 1GDC14H5NZ112763	SH4461		\$14,757.08							#DIV/0!
176 LTRK			1989	TRUCK PU 3/4T CHEV 1GCFK24K2KE110968	SH4848		\$16,667.20							#DIV/0!
170 LTRK			1989	TRUCK PU 3/4T CHEV 1GCF24H7KE172836	SH4898		\$10,150.00							#DIV/0!
175 LTRK			1985	TRUCK PU FORD RANGER 1FTCR105UD23900	SH4906		\$10,588.43							#DIV/0!
180 LTRK			1983	TRUCK DODGE RAM350 1B7LD34W6DS410748	SH4907		\$11,492.00							#DIV/0!
179 LTRK			1986	TRUCK CHEV 86 1GCEK14C5GJ166447	SH4909		\$14,920.14							#DIV/0!
173 LTRK			1989	TRUCK PICK-UP FORD 1FTDF15YOKAA35780	SH4959		\$12,020.25							#DIV/0!
170 LTRK			1991	TRUCK CHEVY S-10 1GCGS14Z1M8251817	SH5170		\$12,390.58							#DIV/0!
170 SUV			1991	90' CHEVY BLAZER 4 WHEEL DRIVE LT 10506	SH5384		\$18,560.00							#DIV/0!
111 LTRK			1993	TRUCK PU CHEV 1/2T 1GDC14H9PZ119489	SH5472		\$14,327.00							#DIV/0!
176 LTRK			1983	TRUCK PU FORD RANGER 1FTCR10S8DUC13870	SH5489		\$10,327.61							#DIV/0!
175 LTRK			1991	TRUCK PU CHEV 3/4T 1GCFK24HXMZ130661	SH5498		\$22,807.79							#DIV/0!
175 LTRK			1993	TRUCK PU CHEV 1/2T 1GDC14H4PZ184329	SH5568		\$13,608.81							#DIV/0!
170 LTRK			1991	TRUCK PU CHEV 1/2T 1GDC14H0PZ18426	SH5569		\$13,608.81							#DIV/0!
100 SEDAN			1991	SEDAN CHEV CELEBRITY #1G1AW51W1J622609	SH5898		\$4,500.00							#DIV/0!
130 LTRK			1993	TRUCK PU CHEV 1/2T 1GCF24H2PE173805	SH5941		\$17,381.75							#DIV/0!
101 SUV			1993	CHEVY BLAZER 93' 1GNDT13W1P2161297	SH5943		\$21,561.77							#DIV/0!
102 SEDAN			1994	CHEVY LUMINA 4 DR 2G1WL54T9P1129591	SH6338		\$18,383.26							#DIV/0!
180 LTRK			1993	TRUCK NISSAN 4 X 4 AIR-M 00.01	SH6340		\$4,460.32							#DIV/0!
170 LTRK			1994	TRUCK PU CHEV 1/2T 1GCEK14H6RZ138172	SH6527		\$16,599.74							#DIV/0!
172 LTRK			1994	TRUCK PU CHEV 1/2T 1GDC14H6RZ131098	SH6529		\$14,262.13							#DIV/0!
170 LTRK			1994	TRUCK MSTR CHEV 1GBM7H1J4PJ108956	SH6530		\$104,513.18							#DIV/0!
173 LTRK			1994	TRUCK PU CHEV 3/4 T 1GCF24H6RE127106	SH6707		\$16,645.42							#DIV/0!
170 LTRK			1994	TRUCK CHEVY 1TON CAB 1GBHC34K9PE197016	SH6864		\$18,788.51							#DIV/0!
101 SEDAN			1996	CUTLASS, CIERRA 4DS	SH7165		\$20,807.72							#DIV/0!
170 LTRK			1994	TRUCK CHAS CAB 1GBGK24KORE304417	SH7389		\$20,944.97							#DIV/0!
172 LTRK			1995	TRUCK FORD PU 2TTEF15N7SCA29962	SH7817		\$17,799.60							#DIV/0!
172 LTRK			1995	TRUCK FORD PU 2TTEF15N9SCA29961	SH7820		\$17,799.60							#DIV/0!
170 SWGN			1994	WAGON STA CHEV 1G1BL82P3SR133674	SH7950		\$29,198.00							#DIV/0!
180 SWGN			1996	WAGON SPORT CHEV 4WD 1GNDT13W3S2242505	SH8093		\$32,295.00							#DIV/0!
170 SWGN			1994	TRUCK PU CHEV 1GCEC14Z3SZ131272	SH8019		\$14,399.00							#DIV/0!
170 SEDAN			1998	SEDAN CHEV LUMINA 2G1WL52K7W9188651	SH8097		\$31,498.00							#DIV/0!
170 VAN			1998	VAN CHEV ASTRO 1GNNDM19W6WB130629	SH8887		\$21,000.00							#DIV/0!
170 LTRK			1999	TRUCK YUKON GMC 1GKEK13R5XJ791571	SH9493		\$34,559.20							#DIV/0!
170 LTRK			2000	TRUCK PU GMC 1GTEC14T7YZ147835	SH9580		\$20,137.52							#DIV/0!
111 VAN			2000	VAN FORD E150 SN 1FTRE1426YHA14184	SH9625		\$23,391.42							#DIV/0!
170 LTRK			2001	TRUCK PU CHEV 1GBGK24R4YF486578	SH9726		\$27,031.08							#DIV/0!
170 LTRK			2001	TRUCK PU FORD F350 SN1FDWF36S51EA30310	SH9893		\$60,000.00							#DIV/0!
180 LTRK			2002	TRUCK PU FORD 450 VIN: 1FDXW47F1YED455	SHA231		\$63,675.63							#DIV/0!
185 SUV			2003	EXPLORER FORD 2002 #1FMZU72K2UD17580	SHA514		\$24,920.67							#DIV/0!
185 SUV			2003	EXPLORER FORD 2002 #1FMZU72K42UD17581	SHA527		\$24,920.67							#DIV/0!
179 LTRK			2004	TRUCK FORD 1FTEF15ZTLB95484	SHA952		\$4,500.00							#DIV/0!
170 LTRK			2005	TRUCK, FORD 150 VIN:1FTEF15Z1TLB95465	SHB358		\$4,500.00							#DIV/0!
175 LTRK			2005	TRUCK DODGE DR150 1D7HU16P15J521463	SHB546		\$29,060.23							#DIV/0!

Appendix 4. DOT-Airports Transportation Vehicles and Fuel Data

Location (Island)	Sub unit (VIP, OMF, etc.)	VEHICLE TYPE	YEAR	MAKE, MODEL, VIN	License Plate	GVWR	Vehicle Acquisition Cost	FUEL CONFIG	FUEL USAGE	TYPE FUEL	EPA RATED MPG	VEHICLE MILEAGE	VEHICLE FUEL USED	AVERAGE VEHICLE MPG
175	LTRK	2005	TRUCK DODGE DR150	1D7HU16P35J521464	SHB547		\$29,060.23							#DIV/0!
170	LTRK	2006	TRUCK, FORD P/U-F250	3/4 TON IFTSX21Y95	SHB836		\$45,861.16							#DIV/0!
100	VAN	2006	VAN DODGE GR CARAVAN	SN 1D4GP24E76B6254	SHB991		\$24,331.09							#DIV/0!
101	SEDAN	2006	SEDAN DODGE STRATUS	SN 183EL46T16N11280	SHB992		\$18,825.92							#DIV/0!
170	LTRK	2006	TRUCK P/U FORD F250	1FTNF20Y45EB36549	SHC168		\$43,284.10							#DIV/0!
170	LTRK	2006	TRUCK #1D7HU18P36J171204,	'06 DODGE	SHC276		\$30,628.97							#DIV/0!
170	LTRK	2006	TRUCK #1D7HU16P76J174030,	'06 DODGE	SHC277		\$30,072.72							#DIV/0!
115	SEDAN	2006	SEDAN, #1B3EL46T66N215241,	2006 DODGE	SHC278		\$14,479.07							#DIV/0!
115	SEDAN	2007	SEDAN DODGE STRATUS	1B3EL46T86N21542	SHC308		\$14,949.90							#DIV/0!
170	LTRK	2006	TRUCK #1D7HU18P46J174029,	'06 DODGE	SHC363		\$36,670.60							#DIV/0!
170	LTRK	2006	TRUCK #1D7HU18P56J171205,	'06 DODGE	SHC396		\$36,670.60							#DIV/0!
170	LTRK	2006	TRUCK, #1D7HU16P96J174031,	'06 DODGE RAM	SHC566		\$30,072.72							#DIV/0!
170	LTRK	2007	TRUCK FORD F350	1FDWF36Y97EA52338	SHC567		\$33,236.50							#DIV/0!
101	LTRK	2007	TRUCK FORD F-150 CREW	4X4 1FTPW14V86KD9	SHC688		\$32,923.21							#DIV/0!

Appendix 4. DOT-Airports Transportation Vehicles and Fuel Data

Location (Island)	Sub unit (VIP, OMF, etc.)	VEHICLE TYPE	YEAR	MAKE, MODEL, VIN	License Plate	GVWR	Vehicle Acquisition Cost	FUEL CONFIG	FUEL USAGE	TYPE FUEL	EPA RATED MPG	VEHICLE MILEAGE	VEHICLE FUEL USED	AVERAG E VEHICLE MPG
12141	325 FIRE		1988	TRUCK PUMP PIERCE 1P9CT0D16JA040266	SH4435		\$232,795.00					984	247	4.0
12203	180 FIRE		1989	TRUCK OSHKOSH T-3000	SH4436		\$246,153.89							#DIV/0!
12203	180 FIRE		1989	TRUCK OSHKOSH T-300	SH4436		\$81,606.18							#DIV/0!
12141	325 FIRE		1990	TRUCK GMC RESCUE E-1 1GDJR33J9LF700631	SH4441		\$176,949.75					431.9	36.7	11.8
12141	325 FIRE		1991	TRUCK CF OSHKOSH TA1500 SN41741	SH4459		\$74,205.25					515.9	16	32.2
12141	325 FIRE		1991	TRUCK CF OSHKOSH TA1500 SN41741	SH4459		\$223,694.75							#DIV/0!
12312	180 FIRE		1991	TRUCK OSHKOSH T-1500 10T9L5BH2L1039553	SH4832		\$316,669.37							#DIV/0!
12312	180 FIRE		1990	TRUCK CF T-3000 VIN# 10T9L5EHOL1040521	SH4833		\$275,948.80							#DIV/0!
12312	180 FIRE		1990	TRUCK CF T-3000 VIN#10T9L5EHOL1040521	SH4833		\$166,814.76							#DIV/0!
12312	180 FIRE		1990	TRUCK CF T-1500 VIN#10T9L5BH3L1039559	SH4834		\$233,855.80							#DIV/0!
12312	180 FIRE		1990	TRUCK CF T-1500 VIN# 10T9L5BH3L1039559	SH4834		\$76,418.80							#DIV/0!
12404	180 FIRE		1990	TRUCK OSHKOSH T3000 10T9L5EH8L1040508	SH4835		\$278,934.00							#DIV/0!
12404	180 FIRE		1990	TRUCK CF T3000 VIN# 10T9L5EH8L1040508	SH4835		\$92,978.04							#DIV/0!
12404	180 FIRE		1990	TRUCK OSHKOSH T-1500 10T9L5BHOL1039549	SH4836		\$322,058.64							#DIV/0!
12253	180 FIRE		1990	TRUCK CF 3000 VIN#10T9L5EH4L1039999	SH4837		\$293,563.00							#DIV/0!
12253	180 FIRE		1990	TRUCK CF 3000 VIN#10T9L5EH4L1039999	SH4837		\$82,369.98							#DIV/0!
12253	180 FIRE		1990	TRUCK OSHKOSH T1500	SH4838		\$326,182.20							#DIV/0!
12253	180 FIRE		1988	TRUCK OSHKOSH 1988 10T965BH8J1032846	SH4842		\$2,775.17							#DIV/0!
12312	180 FIRE		1988	TRUCK CF P-19 VIN# 10T9L5BE6J1032866	SH4843		\$167,511.00							#DIV/0!
12312	180 FIRE		1988	TRUCK CF P-19 VIN# 10T9L5BE6J1032866	SH4843		\$223,348.00							#DIV/0!
12404	180 FIRE		1988	TRUCK INTL STRUC PUMP 1HTLDTVNA4HA23940	SH4844		\$171,901.33							#DIV/0!
12141	330 FIRE		1988	TRUCK CF T3000 VIN# 10T9L5EHXJ1033606	SH4851		\$79,241.20							#DIV/0!
12141	330 FIRE		1988	TRUCK CF T3000 VIN# 10T9L5EHXJ1033606	SH4851		\$167,511.00					139	34.5	4.0
12141	330 FIRE		1991	TRUCK CF OSHKOSH TA1500 SN41742	SH4852		\$223,694.74							#DIV/0!
12141	330 FIRE		1991	TRUCK CF OSHKOSH TA1500 SN41742	SH4852		\$74,205.26							#DIV/0!
12404	180 FIRE		1986	TRUCK CF P-19 VIN# 10T9L5BE2T1028595	SH4853		\$238,486.31							#DIV/0!
12404	180 FIRE		1986	TRUCK CF P-19 VIN# 10T9L5BE2T1028595	SH4853		\$178,864.74							#DIV/0!
12171	100 FIRE		1987	TRUCK CF T1500 VIN# 10T9L5BH1G1028551	SH4854		\$75,300.99							#DIV/0!
12171	100 FIRE		1987	TRUCK CF T1500 VIN# 10T9L5BH1G1028551	SH4854		\$224,334.11							#DIV/0!
12362	170 FIRE		1987	TRUCK CF T1500 VIN# 10T9L5BH2G1028574	SH4855		\$75,301.00							#DIV/0!
12362	180 FIRE		1987	TRUCK CF T1500 VIN# 10T9L5BH2G1028574	SH4855		\$224,334.11							#DIV/0!
12356	180 FIRE		1973	TRUCK YANKEE WALTER CR QRV500 SN725616	SH4858		\$41,150.00							#DIV/0!
12356	180 FIRE		1969	TRUCK FIRE YW 695612	SH4859		\$49,899.00							#DIV/0!
12253	180 FIRE		1990	TRUCK CRYW 3.000 SN006724	SH4964		\$209,754.00					606	449.4	1.3
Hilo	180 FIRE		1990	TRUCK CF P3000 VIN#10T9L5EH5L1039994	SH4966		\$37,592.98							#DIV/0!
Hilo	180 FIRE		1990	TRUCK CF P3000 VIN# 10T9L5EH5L1039994	SH4966		\$338,340.00							#DIV/0!
Hilo	180 FIRE		1990	TRUCK CF P19 VIN# 10T9L5BE1L1039579	SH4967		\$28,394.08	diesel				1257	439.3	2.9
12335	180 FIRE		1990	TRUCK CF P19 VIN#10T9L5BE1L1039579	SH4967		\$255,541.00							#DIV/0!
12335	180 FIRE		1976	TRUCK FIRE YW BGFL 1500 VIN #006721	SH5494		\$3,000.00							#DIV/0!
12171	100 FIRE		1977	TRUCK FIRE YW BGFL 1500 VIN #006721	SH5494		\$135,881.00							#DIV/0!
12171	100 FIRE		2000	MASTR AMERICAN 1992 2B9A2Z287NDC032017	SH7708		\$80,000.00							#DIV/0!
12171	100 FIRE		2000	MASTR OSHKOSH 1985 10T9L5BE1G1026563	SH7709		\$80,000.00							#DIV/0!
12171	100 FIRE		2000	TRUCK 85 OSHKOSH 10T9L5BE3G1026564 Y6	SH7711		\$80,000.00							#DIV/0!
12312	180 FIRE		1999	TRUCK FIRE PIERCE #4P1CT02M2XA001148	SH9243		\$197,432.00							#DIV/0!
12335	180 FIRE		2001	TRUCK FIRE MAJOR1500 4ENDAAA8XY1001848	SH9856		\$34,280.85							#DIV/0!
12335	180 FIRE		2001	TRUCK FIRE MAJOR1500 4ENDAAA8XY1001848	SH9856		\$308,522.00							#DIV/0!
12356	180 FIRE		2001	TRUCK FIRE MAJOR1500 4ENDAAA8XY1001847	SH9857		\$34,280.85							#DIV/0!
12356	180 FIRE		2001	TRUCK FIRE MAJOR1500 4ENDAAA8XY1001847	SH9857		\$308,522.00							#DIV/0!
12141	325 FIRE		2005	TRUCK OSHKOSH 1500 VIN #10TBKAK135S08	SHC128		\$426,146.00							#DIV/0!
12141	325 FIRE		2005	TRUCK OSHKOSH 1500 VIN #10TBKAK135S08	SHC128		\$142,049.50							#DIV/0!
12141	325 FIRE		2005	TRUCK OSHKOSH 1500 VIN#10TBKAK135S0855	SHC129		\$426,146.00							#DIV/0!
12141	325 FIRE		2005	TRUCK OSHKOSH 1500 VIN#10TBKAK135S0855	SHC129		\$142,049.50							#DIV/0!

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12141	325 FIRE	2005 TRUCK, OSHKOSH 3000 VIN#10TDKAK165S0855	SHC130	\$611,061.00	#DIV/0!
12141	325 FIRE	2005 TRUCK, OSHKOSH 3000 VIN#10TDKAK165S0855	SHC130	\$203,685.00	#DIV/0!
12141	ARFF FIRE	2006 F350 CAB CREW 4X4	SHC227		#DIV/0!
12141	ARFF FIRE	2006 F350 CAB CREW 4X4	SHC228		#DIV/0!
12253	180 FIRE	2006 TRUCK OSHKOSH STI-1500 10TBKAK1X5S08560	SHC323	\$495,000.00	#DIV/0!
12253	180 FIRE	2006 TRUCK OSHKOSH STI-1500 10TBKAK1X5S08560	SHC323	\$83,308.00	#DIV/0!
12253	180 FIRE	2007 TRUCK OSHKOSH STI-3000 10TDKAK126S08982	SHC530	\$816,845.00	#DIV/0!
12253	180 FIRE	2007 TRUCK OSHKOSH STI-3000 10TDKAK126S08982	SHC530	\$49,099.00	#DIV/0!
12203	180 FIRE	2007 TRUCK OSHKOSH STI-3000 10DKAK105S085601	SHC533	\$845,000.00	#DIV/0!
Hilo	180 FIRE	2007 TRUCK OSHKOSH STI-3000 10DKAK105S085601	SHC533	\$44,500.00	879 943.4 0.9
Oahu	100 SUV	2005 FORD EXCURSION, 1FMNU40S35EB92362	SHB720	\$58,355.87 Gas	#DIV/0!
Oahu	100 SUV	2005 FORD EXCURSION, 1FMNU40S35EB92361	SHB721	\$58,355.88 Gas	#DIV/0!
Oahu	325 LTRK	2005 TRUCK, FORD VIN# 1FMNU40S35EB36907 Y2	SHB722	\$58,355.87	4596.6 596.6 7.7
Oahu	325 LTRK	2005 TRUCK, FORD VIN# 1FMNU40S55EB36908 Y-1	SHB723	\$58,355.88	1082.5 165.1 6.6
Kona	180 FIRE	1990 TRUCK CF 3000 VIN#10T9L5EH4L1039999	SH4837	\$293,563.00 Crash Fire	528 323.7
Kona	180 FIRE	1990 TRUCK CF 3000 VIN#10T9L5EH4L1039999	SH4837	\$82,369.98	N/A
Kona	180 FIRE	1990 TRUCK OSHKOSH 1500	SH 4838	\$326,182.20 Crash Fire	778 397.6
Kona	180 FIRE	1988 TRUCK OSHKOSH 1988 10T965BH8J1032846	SH 4842	\$2,775.17	145.5 108.5
Kona	180 FIRE	2006 TRUCK OSHKOSH STI-1500 10TBKAK1X5S08560	SHC323	495000	1001.4 701.6
Kona	180 FIRE	2006 TRUCK OSHKOSH STI-1500 10TBKAK1X5S08560	SHC323	83308	N/A
Kona	180 FIRE	2007 TRUCK OSHKOSH STI-3000 10TDKAK126S08982	SHC530	816845	544 707.2
Kona	180 FIRE	2007 TRUCK OSHKOSH STI-3000 10TDKAK126S08982	SHC530	49099	N/A

Appendix 4. DOT-Airports Transportation Vehicles and Fuel Data

Location (Island)	Sub unit (OMP, etc.)	VEHICLE TYPE	YEAR	MAKE, MODEL, VIN	License Plate	GVWR	Vehicle Acquisition Cost	FUEL CONFIG	FUEL USAGE	TYPE FUEL	EPA RATED MPG	VEHICLE MILEAGE	VEHICLE FUEL USED	AVERAG E VEHICLE MPG
Oahu	Vector Control	LTRK	2006	TRUCK, 1998, FORD, 1FTRF27Z8WKB88219	SHC271		\$5,500.00							#DIV/0!
Oahu		520 HTRK	1995	TRACTOR BUS #1C9M3ABS8RW535711 L-2061	SH7116		\$197,985.00							#DIV/0!
Oahu		520 HTRK	1995	TRACTOR BUS #1C9M3ABS9RW535720 L-207	SH7387		\$197,985.00							#DIV/0!
Oahu		520 HTRK	1995	TRACTOR BUS 1C9A3ABS7RW535716 L - 2066	SH7119		\$115,035.00							#DIV/0!
Oahu		520 HTRK	1991	TRACTOR BUS 1C9CA2DS3LW077535 L-1835	SH4393		\$142,484.00							#DIV/0!
Oahu		520 HTRK	1991	TRACTOR BUS 1C9CA2DS4LW077541 L-1841	SH4396		\$142,484.00							#DIV/0!
Oahu		520 HTRK	1991	TRACTOR BUS 1C9CM2DSXW077568 L-1876	SH4405		\$142,484.00							#DIV/0!
Oahu		520 HTRK	1991	TRACTOR BUS 1C9CM2NW1MW077566 L - 181	SH247		\$102,709.00							#DIV/0!
Oahu		520 HTRK	1995	TRACTOR BUS 1C9M3ABS9RW535721 L - 207	SH7388		\$115,035.00							#DIV/0!
Oahu		520 HTRK	1984	TRACTOR BUS CT90-715 ECP70199 L-1437	SH4368		\$126,452.09							#DIV/0!
Oahu		520 TRLR	1991	TRAILER 1C9CS2NWOLW077536 L-1836	SH227		\$102,709.00					Trailer		#VALUE!
Oahu		520 TRLR	1991	TRAILER 1C9CT2NW2LW077537 L-1837	SH228		\$102,709.00					Trailer		#VALUE!
Oahu		520 TRLR	1991	TRAILER 1C9CT2NW2LW077540 L-1840	SH230		\$102,709.00					Trailer		#VALUE!
Oahu		520 TRLR	1991	TRAILER 1C9CT2NW3LW077546 L-1846	SH232		\$102,709.00							#DIV/0!
Oahu		520 TRLR	1991	TRAILER 1C9CT2NW6LW077542 L-1842	SH233		\$102,709.00					Trailer		#VALUE!
Oahu		520 TRLR	1991	TRAILER 1C9CT2NW7LW077534 L-1834	SH4392		\$102,709.00					Trailer		#VALUE!
Oahu		520 TRLR	1991	TRAILER 1C9CT2NW7LW077548 L-1848	SH235		\$102,709.00							#DIV/0!
Oahu		520 TRLR	1991	TRAILER 1C9CT2NW7LW077551 L-1851	SH237		\$102,709.00							#DIV/0!
Oahu		520 TRLR	1991	TRAILER 1C9CT2NW9LW077549 L-1849	SH236		\$102,709.00					Trailer		#DIV/0!
Oahu		520 TRLR	1991	TRAILER 1C9CT2NW9LW077552 L-1852	SH238		\$102,709.00					Trailer		#VALUE!
Oahu		520 TRLR	1991	TRAILER 1C9CT2NWXLW077561 L-1861	SH241		\$102,709.00							#VALUE!
Oahu		520 TRLR	1984	TRAILER CT90-716 ECT70211 L-1438	SH220		\$70,801.00							#DIV/0!
Oahu		520 HTRK	2005	TRAILER EL 100 VIN#1ETELTRX14A043917	SHB452		\$75,401.21					Trailer		#VALUE!
Oahu		520 HTRK	2005	TRAILER EL 100 VIN#1ETELTRX3A043918	SHB453		\$75,401.21					Trailer		#VALUE!
Oahu		520 HTRK	2004	TRAILER EL100 VIN#1ETELTRX8A043901	SH802		\$78,075.94					Trailer		#VALUE!
Oahu		520 HTRK	2004	TRAILER EL100 VIN#1ETELTRX4A043902	SH803		\$78,075.94					Trailer		#VALUE!
Oahu		520 TRLR	1995	TRAILER VIN#1C9CA2620RW535719 L-2073	SH7123		\$115,035.00					Trailer		#VALUE!
Oahu		520 TRLR	1995	TRAILER VIN#1C9CA2627RW535717 L-2071	SH7121		\$115,035.00							#VALUE!
Oahu		105 HTRK	2001	HANDI VAN 2000, LT-250 BUS, 1FDS35F3YH	SH9882		\$98,099.00					30262 not in servi		#VALUE!
Oahu		105 HTRK	2001	HANDI VAN 2000, LT-250 BUS, 1FDS35F8YH	SH9855		\$98,099.00					35844 not in servi		#VALUE!
Oahu		520 HTRK	1993	BUS PARATRANSIT 2B7KB31ZONK170351	SH5241		\$39,015.74					not in service		#VALUE!
Oahu		520 TRLR	1995	TRAILER VIN#1C9CA262XRW535713 L-2067	SH7117		\$115,035.00							#DIV/0!
Oahu		520 TRLR	2004	SHUTTLE EL25 VIN# 1EEEL25X93A043881	SHB234		\$166,965.19	Electric	Electric	Electric		23977 electric		#VALUE!
Oahu		520 TRLR	2004	SHUTTLE EL25 VIN# 1EEEL25X13A043888	SHB235		\$164,239.12	Electric	Electric	Electric		11578 electric		#VALUE!
Oahu		520 TRLR	2004	SHUTTLE EL25 VIN# 1EEEL25X33A043889	SHB236		\$164,239.12	Electric	Electric	Electric		24191 electric		#VALUE!
Oahu		520 TRLR	2004	SHUTTLE EL25 VIN# 1EEEL25X3A043890	SHB237		\$164,239.12	Electric	Electric	Electric		22178 electric		#VALUE!
Oahu		520 TRLR	2004	TRACTOR EL 100 VIN#1EEEL25X9A043896	SHB259		\$178,690.47	Electric	Electric	Electric		16003 electric		#VALUE!
Oahu		520 TRLR	2005	TRACTOR EL 100 VIN#1EEEL25X04A043916	SHB451		\$174,131.85	Electric	Electric	Electric		11321 electric		#VALUE!
Oahu	HDH	LTRK	1995	TRUCK P/U CHEV 1GCHC34K5E108529	SH8005		\$35,500.00	Gas	transferred					#DIV/0!
Oahu	Division	Friction Te:	2003	VAN P DODGE 1D4GP253138101035	SHA630		\$16,934.25							#DIV/0!
Oahu	Division	Friction Te:	2003	VAN P DODGE 1D4GP253138101035	SHA630		\$152,408.00							#DIV/0!
		101 LTRK	2002	AIR CONDITIONING UNIT, INSTALLED IN GMC SH5942			\$1,852.07			Gas		233	45.5	5.1

Appendix 4. DOT-Airports Transportation Vehicles and Fuel Data

Location (Island)	Sub unit (VIP, OMF, etc.)	VEHICLE TYPE	YEAR	MAKE, MODEL, VIN	License Plate	GVWR	Vehicle Acquisition Cost	FUEL CONFIG	FUEL USAGE	TYPE FUEL	EPA RATED MPG	VEHICLE MILEAGE	VEHICLE FUEL USED	AVERAG E VEHICLE MPG
12141	310 SHRF	2003	EXPLORER FORD # 1FMZU73W22ZC61841	SHA557			\$23,894.58					3188.4	308.9	10.3
12141	310 SHRF	2003	EXPLORER FORD # 1FMZU73W02ZC61840	SHA558			\$23,894.58					11962.1	1114.5	10.7
12141	310 SHRF	2003	SUV FORD EXCURSION # 1FMNU41S83EA28116	SHA559			\$29,940.44					17225.3	2462.5	7.0
12141	310 SHRF	2003	TRUCK FORD F-350 # 1FTSW31S72ED24254	SHA560			\$25,418.67					2491.3	267.2	9.3
12141	310 SHRF	2003	VAN FORD CUSTODY # 1FBSS31S92HB64439	SHA709			\$21,867.51					2635	625.5	4.2
12141	301 SHRF	2003	2003 FORD EXPLORER 1FMZU72K93ZA12274	SHA710			\$31,817.81					30303	2325.9	13.0
12141	310 SHRF	2003	SEDAN FORD CROWN VICTOR # 2FAHP71W13X15	SHA729			\$32,513.07					15982	1477.1	10.8
12141	310 SHRF	2003	SEDAN FORD CROWN VICTOR # 2FAHP71W13X15	SHA730			\$32,513.07					21127	1868.7	11.3
12141	310 SHRF	2003	SEDAN FORD CROWN VICTOR # 2FAHP71W53X15	SHA731			\$32,513.07					22911	2027.2	11.3
12141	310 SHRF	2003	SEDAN FORD CROWN VICTOR # 2FAHP71W53X15	SHA732			\$32,513.07					21259	1921.3	11.1
12141	310 SHRF	2003	SEDAN FORD CROWN VICTOR # 2FAHP71W33X15	SHA733			\$32,513.07					15582	1458.7	10.7
12141	310 SHRF	2003	SEDAN FORD CROWN VICTOR # 2FAHP71W33X15	SHA748			\$32,513.07					15562	1427.8	10.9
12141	310 SHRF	2006	AMB, 1997, FORD, 1FDKF38F1VED04655	SHC319			\$8,000.00					183.5	25.5	7.2
12131	110 SHRF	2000	SUV Ford Expedition 1FMPU16L5YLC25823	SHC341			\$5,500.00					12412	502.1	24.7
12141	310 SHRF	2007	SUV Ford Expedition 1FMPU16L2YLB73440	SHC678			\$7,500.00					425.9	45.5	9.4
Oahu	Sheriff	SWGN	1997 FORD 2DSW 2FMDA51U1WBB57679	SH8775			\$18,311.21					1784	145.8	12.2
Oahu	310 SUV	2006	SUV, 1999, DODG, 1B4HS28ZXXF670302	SHC423			\$7,000.00 Gas							#DIV/0!

Harbors Division											
Act 96 Vehicle Baseline Data											
FY 2007 (July 2006 - June 2007)											
LIC. NO.	DESCRIPTION	VIN	YR	Class	Island	Vehicle Acquisition Cost (\$)	EPA Rated Fuel Economy (MPG) (city/hwy)	Type of Fuel	Milage (Miles)	Fuel Consumption (GAL)	Actual Fuel Economy (MPG)
SH 4070	P/U TRUCK CHEV FLEETSIDE	1GCCS14R9J2175844	88	Truck (0 - 10,000 GVW)	HAWAII	\$10,094		unl	80443.00		15.00
SH 4076	P/U TRUCK 90 GMC	2GTDC14H4L1506485	90	Truck (0 - 10,000 GVW)	HAWAII	\$13,675		unl	162750.00	519.00	20.32
SH 4077	P/U TRUCK CHEV	1GCDC14H4JE173023	88	Truck (0 - 10,000 GVW)	HAWAII	\$10,672		unl	94519.00	142.31	7.87
SH 4078	P/U TRUCK 92 FORD F-150	2FTDF15N1NCA39867	92	Truck (0 - 10,000 GVW)	HAWAII	\$15,556		unl	61016.00	96.40	8.60
SH 4955	TRUCK INT'L CRANE	D1225GGB13195	77	Truck (10,000 - 20,000 GVW)	HAWAII	\$72,959		diesel	13291.00	0.00	0.00
SH 6901	P/U CHEV FLATBED	1GBG6H1P9R1104067	94	Truck (20,000 - 45,000 GVW)	HAWAII	\$30,871		unl	14240.00		8.80
SH 7027	P/U TRUCK CHEV	1GCDC14H6RZ207273	94	Truck (0 - 10,000 GVW)	HAWAII	\$13,595		unl	44720.00	170.78	14.00
SH 9716	SUV ISUZU MPVH	4S2DM58W0Y4331777	00	Truck (0 - 10,000 GVW)	HAWAII	\$22,362		unl	52110.00	625.40	13.75
SH 7091	TRUCK FORD STYLESIDE	1FTJW36H3REA44107	94	Truck (0 - 10,000 GVW)	KAUAI	\$29,036	13	GAS	33,437	2,388.00	14.00
SH 7094	TRUCK CHEV STYLESIDE	1GCCS19Z2R8199520	94	Truck (0 - 10,000 GVW)	KAUAI	\$16,249	19	GAS	No Longer in use		
SH 8084	SUV CHEV BLAZER	1GNCS13W1S2243585	95	Truck (0 - 10,000 GVW)	KAUAI	\$22,769	17	GAS	59972	3,517.00	17.05
SH 9245	P/U CHEV FLATBED	1GBHC34R7XF016843	99	Truck (0 - 10,000 GVW)	KAUAI	\$26,680	14	GAS	11,032	788.00	14.00
SH 9260	SUV CHEV BLAZER	1GNCS13W2XK159671	99	Truck (0 - 10,000 GVW)	KAUAI	\$32,019	16	GAS	37,799	2,362.00	16.00
SH 9261	P/U TRUCK CHEV	1GBGC24R1CF015029	99	Truck (0 - 10,000 GVW)	KAUAI	\$27,350	14	GAS	28,840	2,060.00	14.00
SH 9671	TRUCK CHEV	1GBGC24R2XF067253	99	Truck (0 - 10,000 GVW)	KAUAI	\$26,817	14	GAS	29,923	2,137.00	14.00
SH 9902	P/U TRUCK FORD	1FTYR10U41PA92546	01	Truck (0 - 10,000 GVW)	KAUAI	\$15,375	21	GAS	60,833	3,379.00	18.00
SH 4007	P/U TRUCK FORD	1FTEX15H8NKB27063	92	Truck (0 - 10,000 GVW)	MAUI	\$19,621	12/17	Gas	3082	393.41	7.83
SH 4261	INTL STAKE	1HTLBD4K2EHA61438	84	Truck (10,000 - 20,000 GVW)	MAUI	\$20,661	N/A	Gas	923	244.29	3.78
SH 4265	P/U FORD	1FTEF15YXGPA10688	86	Truck (0 - 10,000 GVW)	MAUI	\$9,550	18/24	Gas	691	84.05	8.22
SH 4267	P/U TRUCK GMC SONOMA	1GTCT19Z9M8509359	91	Truck (0 - 10,000 GVW)	MAUI	\$17,405	18/24	Gas	2464	221.35	11.13
SH 7090	SDN OLDS CUTLASS CRUISE	1G3AJ85M3R6428263	95	Sedan, Coupe, Station wagon, SUV	MAUI	\$14,765	19/29	Gas	5529	313.13	17.66
SH 7596	TRUCK GMC	1GTFEC24Z0SZ511129	95	Truck (0 - 10,000 GVW)	MAUI	\$20,182	16/21	Gas	2756	280.67	9.82
SH 7597	TRUCK GMC	1GTEC14Z3SZ511132	95	Truck (0 - 10,000 GVW)	MAUI	\$15,954	16/21	Gas	8755	682.06	13.43
SH 8408	P/U CHEV	1GCCS14XXVK115298	97	Truck (0 - 10,000 GVW)	MAUI	\$15,625	17/23	Gas	1118	108.70	10.29
SH 8954	SUV CHEV BLAZER	1GNCS13W8W2228684	98	Truck (0 - 10,000 GVW)	MAUI	\$31,100	16/20	Gas	6091	779.03	7.82
SH 4004	SDN FORD TAURUS	1FACP57U5PA115878	93	Sedan, Coupe, Station wagon, SUV	OAHU	\$18,148	19/27	unleaded	1229.0	109.6	11.2
SH 4005	SDN FORD TAURUS	1FACP57U7PA115879	93	Sedan, Coupe, Station wagon, SUV	OAHU	\$18,148	19/27	unleaded	561.0	59.0	9.5
SH 4055	VAN CHEV	1GCGG35K4N7101482	92	Van (passenger, cargo)	OAHU	\$23,799	14/18	unleaded			
SH 4239	P/U GMC	1GTDC14N0GF706090	86	Truck (0 - 10,000 GVW)	OAHU	\$9,006	no listing	unleaded	4729.0	628.2	7.5
SH 4244	P/U CHEV	1GBGC24M4E1J46308	84	Truck (0 - 10,000 GVW)	OAHU	\$12,785	no listing	unleaded	1470.0	207.6	7.1
SH 4246	P/U TRUCK 91 GMC	1GDGR33KXMF701050	91	Truck (0 - 10,000 GVW)	OAHU	\$21,443	15/19	unleaded	odometer broken	207.6	n/a

LIC. NO.	DESCRIPTION	VIN	YR	Class	Island	Vehicle Acquisition Cost (\$)	EPA Rated Fuel Economy (MPG) (city/hwy)	Type of Fuel	Milage (Miles)	Fuel Consumption (GAL)	Actual Fuel Economy (MPG)
DOT HARBORS DIVISION VEHICLE BASELINE DATA FY 2007											
SH 4253	P/U CHEV	1GBGC24M8EJ146277	84	Truck (0 - 10,000 GVW)	OAHU	\$12,785	no listing	unleaded	0.0	0.0	
SH 4254	P/U CHEV	1GBGC24MXEJ146300	84	Truck (0 - 10,000 GVW)	OAHU	\$12,785	no listing	unleaded	2680.0	332.3	8.1
SH 4262	TRUCK INT'L FTBD	1HTSHNHROMH354189	91	Truck (over 45,000 GVW)	OAHU	\$62,857	no listing	diesel	0.0	0.0	
SH 4269	P/U DODGE D250	1B6KD2455HS446454	87	Truck (0 - 10,000 GVW)	OAHU	\$16,026	11/13	unleaded	707.0	120.5	5.9
SH 4270	TRUCK GMC TC 10703	1GTDC14ZXLZ544867	90	Truck (0 - 10,000 GVW)	OAHU	\$13,724	18/21	unleaded	n/a	107.4	n/a
SH 4325	TRUCK AERIAL LADDER INTL	1HTAA17B2BHB25932	81	Truck (20,000 - 45,000 GVW)	OAHU	\$36,381	no listing	unleaded	0.0	0.0	
SH 4326	TRUCK FORD F600 W/LIFT	1FDMF60KXLVA39248	90	Truck (10,000 - 20,000 GVW)	OAHU	\$47,618	11/15	unleaded	n/a	25.7	n/a
SH 4330	P/U GMC FLATBED	1GDJ7D1F8GV505206	86	Truck (10,000 - 20,000 GVW)	OAHU	\$28,576	no listing	diesel	vehicle was idle		
SH 4331	TRUCK INT'L 4900 W/BM & JIB	1HTSDZ3R9LH280523	90	Truck (20,000 - 45,000 GVW)	OAHU	\$95,229	no listing	diesel	vehicle was idle		
SH 5483	TRUCK INTL AERIAL LIFT	1HTAA19580HAZ1017	82	Truck (20,000 - 45,000 GVW)	OAHU	\$97,017	no listing	diesel	vehicle was idle		
SH 5485	TRUCK FLATBED GMC	1GDBG33K9MF701055	91	Truck (0 - 10,000 GVW)	OAHU	\$21,443	15/19	unleaded	odometer broken	685.9	n/a
SH 6822	TRUCK CHEV FLTSIDE	1GCFC24HXRE121390	94	Truck (0 - 10,000 GVW)	OAHU	\$16,838	14/19	unleaded	3552.0	406.0	8.7
SH 6823	VAN CHEV	1GCDG15H0RF115936	94	Truck (0 - 10,000 GVW)	OAHU	\$13,687	14/19	unleaded	2428.0	244.3	9.9
SH 7031	VAN CHEV ASTRO	1GNDM15Z9JB193006	88	Van (passenger, cargo)	OAHU	\$5,900	17/22	unleaded	399.0	58.1	6.9
SH 7244	TRUCK CHEV CAB	1GBGC24K9RE303358	94	Truck (0 - 10,000 GVW)	OAHU	\$18,192	13/17	unleaded	5759.0	608.8	9.5
SH 7245	TRUCK CHEV CAB	1GBGC24K5RE306404	94	Truck (0 - 10,000 GVW)	OAHU	\$18,192	13/17	unleaded	3705.0	457.8	8.1
SH 7246	TRUCK CHEV CAB	1GBGC24K5RE304040	94	Truck (0 - 10,000 GVW)	OAHU	\$18,192	13/17	unleaded	4376.0	527.4	8.3
SH 8249	P/U CHEV	1GBHC33R6TF004193	96	Truck (0 - 10,000 GVW)	OAHU	\$25,187	15/19	unleaded	4973.0	698.0	7.1
SH 9328	INT'L MSTR KOMATSU PAY L	1HTSCABL4XH683803	99	Truck (20,000 - 45,000 GVW)	OAHU	\$69,695	no listing	diesel	0.0	0.0	
SH 9419	SDN CHEV CORSSICA	1G1LD55M9SY273574	95	Sedan, Coupe, Station wagon, SUV	OAHU	\$6,300	21/29	unleaded	98.0	20.8	4.7
SH 9420	SDN CHEV CORSSICA	1G1LD55M3SY267785	95	Sedan, Coupe, Station wagon, SUV	OAHU	\$6,300	21/29	unleaded	1200.0	98.6	12.2
SH 9421	SDN CHEV CORSSICA	1G1LD55M2SY272900	95	Sedan, Coupe, Station wagon, SUV	OAHU	\$6,300	21/29	unleaded	411.0	43.8	9.4
SH 9650	PUP CHEV	1GBHC33J6XF003240	99	Truck (0 - 10,000 GVW)	OAHU	\$36,145	12/16	unleaded	5392.0	825.8	6.5
SH 9739	TRUCK PETERBILT	1NPGN08X2Y0527575	00	Truck (20,000 - 45,000 GVW)	OAHU	\$81,932	no listing	diesel	0.0	0.0	
SH 9899	VAN CARGO CHEV	1GCHG39F911133293	01	Van (passenger, cargo)	OAHU	\$56,655	no listing	diesel	0.0	0.0	

HAWAII STATE PUBLIC LIBRARY SYSTEM
ELECTRICAL CONSUMPTION
FISCAL YEARS 2005 & 2007

Library	-----FY 2005-----		-----FY 2007-----	
	KWH	\$	KWH	\$
Oahu	6,480,250	989,338	6,813,042	1,227,800
Hawaii	613,046	159,017	705,154	222,652
Maui	676,711	167,773	718,723	218,178
Kauai	675,320	215,600	653,151	200,946
Total	<u>8,445,327</u>	<u>1,531,728.17</u>	<u>8,890,070</u>	<u>1,869,574.90</u>

ISLAND OF OAHU

Library	-----FY 2005-----		-----FY 2007-----	
	KWH	\$	KWH	\$
Logistical Support Section	377,280	57,231.05	358,680	64,043.80
Hawaii State Library	1,146,240	172,742.24	1,293,600	225,682.57
Library for the Blind & PH	127,120	21,210.80	130,320	25,554.03
Aiea Public Library	126,219	21,180.30	135,240	26,654.99
Mililani Public Library	320,480	46,039.35	291,360	52,045.84
Pearl City Public Library	386,570	56,122.29	417,270	73,053.55
Salt Lake Public Library	854,160	118,334.72	927,840	150,862.81
Wahiawa Public Library	118,692	19,801.87	132,716	25,573.61
Waialua Public Library	75,290	12,348.25	74,501	14,587.83
Waianae Public Library	111,275	18,458.74	125,435	24,277.32
Waipahu Public Library	226,900	36,607.01	238,500	46,556.87
Aina Haina Public Library	129,040	22,505.07	130,400	26,038.71
Hawaii Kai Public Library	142,960	24,639.49	174,240	33,740.69
Kahuku Public & School Librai	142,400	22,811.38	189,600	34,559.27
Kailua Public Library	185,240	29,212.93	192,019	35,906.74
Kaimuki Public Library	386,323	56,284.54	331,186	60,124.02
Kalihi Public Library	110,612	18,872.19	116,542	23,096.35
Kaneohe Public Library	283,230	43,844.65	290,213	53,510.31
Liliha Public Library	226,600	36,413.96	216,360	41,505.23
Manoa Public Library	115,939	19,277.23	123,740	24,088.56
McCully-Moiliili Public Librar	323,520	50,528.83	314,800	57,262.84
Waikiki-Kapahulu Public Libra	159,760	24,143.18	161,360	28,928.26
Kapolei Public Library	404,400	60,727.77	447,120	80,145.54
Total	<u>6,480,250</u>	<u>989,337.84</u>	<u>6,813,042</u>	<u>1,227,799.74</u>

HAWAII STATE PUBLIC LIBRARY SYSTEM
ELECTRICAL CONSUMPTION
FISCAL YEARS 2005 & 2007

ISLAND OF HAWAII

Library	-----FY 2005-----		-----FY 2007-----	
	KWH	\$	KWH	\$
Bond Memorial Public Library	13,456	3,792.13	15,386	5,250.45
Hilo Public Library	253,920	62,848.89	260,880	80,558.18
Holualo Public Library	4,742	1,558.16	4,099	1,651.82
Honokaa Public Library	12,680	3,861.44	15,160	5,471.84
Kailua-Kona Public Library	135,440	34,444.46	141,680	44,331.83
Kealahou Public Library	50,051	12,442.57	51,390	15,829.52
Laupahoehoe Public & School Lib	71,314	19,945.38	71,194	23,133.28
Mt. View Public & School Libr	18,828	5,190.47	18,330	6,198.46
Naalehu Public Library	11,735	3,607.97	11,316	4,205.76
Pahala Public & School Library	40,880	11,326.01	40,440	13,783.58
Thelma Parker Memorial P & S	0	0.00	75,279	22,236.89
Total	613,046	159,017.48	705,154	222,651.61

* account transferred from DOE as of October 2006.

ISLAND OF MAUI

Library	-----FY 2005-----		-----FY 2007-----	
	KWH	\$	KWH	\$
Kahului Public Library	205,320	46,625.80	219,880	62,857.42
Lahaina Public Library	28,112	6,570.23	28,462	8,201.70
Lanai Public & School Library	83,250	26,312.20	85,600	32,036.91
Kihei Public Library	186,800	44,239.45	216,900	62,729.72
Makawao Public Library	80,760	19,461.56	80,440	23,734.73
Molokai Public Library	45,682	13,698.36	40,386	15,006.40
Wailuku Public Library	46,787	10,865.51	47,055	13,610.99
Total	676,711	167,773.11	718,723	218,177.87

ISLAND OF KAUAI

Library	-----FY 2005-----		-----FY 2007-----	
	KWH	\$	KWH	\$
Hanapepe Public Library	63,700	18,459.08	63,740	21,376.27
Kapaa Public Library	90,920	36,206.56	97,680	33,563.23
Lihue Public Library	328,700	103,699.43	298,800	102,695.16
Princeville Public Library	146,360	42,791.10	143,840	25,774.81
Waimea Public Library	45,640	14,443.57	49,091	17,536.21
Total	675,320	215,599.74	653,151	200,945.68

DEPARTMENT OF PUBLIC SAFETY

VEHICLE DESCRIPTION	MODEL YEAR	GROSS VEHICLE WEIGHT RATING	VEHICLE FUEL CONFIGURATION	ACCUMULATED MILEAGE	CITY MPG	HWY MPG
FORD AEROSTAR VAN	97	1	Gasoline	78,488	17	23
JEEP CHEROKEE	98	1	Gasoline	N/A	18	20
TRAILER THEURE MSTL	89	2	Gasoline	N/A	N/A	N/A
VAN CHEV ASTRO PASS	93	1	Gasoline	N/A	15	19
VAN CHEV ALUM CUBE	93	1	Gasoline	N/A	18	24
VAN CHEV ALUM CUBE	93	1	Gasoline	N/A	18	24
VAN CHEV ALUM HIGH CUBE	99	1	Gasoline	N/A	18	24
TRUCK INTERNATIONAL STAKE FLTBED	86	N/A	N/A	N/A	N/A	N/A
CHEV VAN	06	2	Gasoline	N/A	16	20
CHEVROLET VAN	06	2	Gasoline	N/A	16	20
P/U CHEVY S-10	84	1	Gasoline	60,919	15	20
P/U CHEV S10	84	1	Gasoline	70,756	15	20
FORD BUS	94	2	Gasoline	24,305	N/A	N/A
VAN FORD 138 ECONOLINE	97	1	Gasoline	12,362	15	20
VAN FORD 138 ECONOLINE	97	1	Gasoline	79,459	15	20
VAN FORD ECONOLINE CARGO	99	1	Gasoline	136,465	15	20
VAN FORD	97	1	Gasoline	75,362	15	20
TRUCK CHEVY/VAN DIESEL	91	2	Diesel	44,261	16	21
P/U DODGE	98	2	Gasoline	24,807	13	17
VAN FORD	99	1	Gasoline	30,366	15	20
VAN FORD 15 PASS	97	2	Gasoline	46,058	14	19
VAN DODGE	00	2	Gasoline	33,969	19	26
CHEVY VAN	97	2	Gasoline	11,369	16	20
CHEVY VAN	97	2	Gasoline	199,190	16	20
SDN CHEV CELEBRITY 4DR	88	1	Gasoline	82,889	24	31
SDN TOYOTA COROLLA 4DR	03	1	Gasoline	32,115	30	38
FORD TAURUS 4DR	05	1	Gasoline	10,276	20	27
CHEVY IMPALA 4DSD	07	1	Gasoline	642	20	30
CHEV COLLINS AMBULANCE	90	N/A	N/A	N/A	N/A	N/A
FORD 350 DIESEL	87	N/A	N/A	N/A	N/A	N/A
VAN DODGE	90	2	Gasoline	58,348	19	26
VAN GMC M15Z	90	2	Gasoline	9,702	13	15
VAN FORD	88	1	Gasoline	91,947	15	20

DEPARTMENT OF PUBLIC SAFETY

VEHICLE DESCRIPTION	MODEL YEAR	GROSS VEHICLE WEIGHT RATING	VEHICLE FUEL CONFIGURATION	ACCUMULATED MILEAGE	CITY MPG	HWY MPG
P/U TRUCK FORD F-250	91	2	Gasoline	20,265	11	16
SDN CHEVY CAPRICE	03	1	Gasoline	66,228	18	26
SDN CHEVY CAPRICE	92	1	Gasoline	N/A	18	26
VAN CHEV ALUM MODEL G31K	90	2	Gasoline	155,350	16	20
BUS FORD 15 PASS	91	2	Gasoline	1,000,000	13	19
VAN FORD CLUBWAGON	97	1	Gasoline	33,502	14	18
VAN FORD E350	97	2	Gasoline	N/A	N/A	N/A
VAN FORD AEROSTAR	97	1	Gasoline	N/A	17	23
VAN DODGE	91	2	Gasoline	90,732	19	26
P/U DODGE RAM	91	2	Gasoline	87,901	13	17
VAN DODGE	91	2	Gasoline	9,572	19	26
SUV CHEV BLAZER	93	2	Gasoline	8,987	13	16
STATION WAGON CHEV CELEBRITY	90	1	Gasoline	141,898	N/A	N/A
VAN FORD 3 DR E-350 15 PASSENGER	03	2	Gasoline	160,186	N/A	N/A
P/U TRUCK CHEVY	91	1	Gasoline	46,488	15	20
SUV CHEROKEE AMC	86	1	Gasoline	116,120	19	22
P/U TRUCK DODGE	82	2	Gasoline	156,024	13	17
P/U DODGE	86	2	Gasoline	51,922	13	17
VAN CHEV 12 PASS	92	2	Gasoline	74,103	16	21
VAN CHEV	98	2	Gasoline	142,731	16	20
VAN CHEV	98	2	Gasoline	131,721	16	20
VAN GMC	89	2	Gasoline	102,725	13	15
SDN CHEV 4DR	88	1	Gasoline	79,766	23	32
P/U TRUCK CHEV	78	1	Gasoline	103,288	20	26
BUS DODGE 15 PASS	87	2	Gasoline	112,275	13	16
P/U CHEV	87	1	Gasoline	64,637	20	26
SDN CHEV 4DR	91	1	Gasoline	124,032	23	32
SDN CHEV 4DR	87	1	Gasoline	74,226	23	32
FORD ECONOLINE VAN	98	2	Gasoline	53,131	N/A	N/A
CHEVY IMPALA	02	1	Gasoline	70,644	19	29
CHEVY IMPALA	03	1	Gasoline	83,317	21	32
CHEVY ASTRO VAN	98	2	Gasoline	75,766	16	20
SDN OLDS CIERA 4DR	94	1	Gasoline	38,176	N/A	N/A

DEPARTMENT OF PUBLIC SAFETY

VEHICLE DESCRIPTION	MODEL YEAR	GROSS VEHICLE WEIGHT RATING	VEHICLE FUEL CONFIGURATION	ACCUMULATED MILEAGE	CITY MPG	HWY MPG
OLDS ALERO	02	1	Gasoline	27,884	24	32
SUBARU SDN 4DR	91	1	Gasoline	72,135	20	26
VAN CHEV 12 PASS ISL4 3111	97	2	Gasoline	31,845	16	20
TRUCK CHEV CREW CAB	98	2	Gasoline	35,715	13	16
VAN CHEV 15 PASS	98	2	Gasoline	43,022	16	21
VAN CHEV 12 PASS ISL4 3111	97	2	Gasoline	236,295	16	21
TRAILER REFUSE COLL	77	N/A	N/A	N/A	N/A	N/A
SDN SR5 TOYOTA 2 DR	86	1	Gasoline	92,068	18	20
SUV CHEV BLAZER 2DR	90	2	Gasoline	140,572	13	16
BUS FORD 15 PASS	91	3	Gasoline	44,093	N/A	N/A
S/W FORD 2DR	87	1	Gasoline	35,223	21	27
S/W FORD	89	1	Gasoline	49,547	21	27
TRUCK INT'L HARVESTER	80	2	Diesel	103,382	N/A	N/A
TRUCK GMC FLTBD STK	83	2	Gasoline	13,042	N/A	N/A
P/U TRUCK FORD	84	1	Gasoline	64,354	15	20
TRUCK CHEV FLTBD	87	2	Gasoline	49,076	N/A	N/A
TRUCK INT'L	87	2	Gasoline	108,888	N/A	N/A
TRUCK FORD CREWCAB	92	1	Gasoline	16,965	16	20
TRUCK GMC DUMP	83	8	Diesel	8,765	N/A	N/A
TRUCK FORD CHAS. AERIAL	90	1	Gasoline	38,765	N/A	N/A
TRUCK FORD DUMP	89	8	Diesel	95,211	N/A	N/A
TRUCK FORD DUMP	89	8	Diesel	92,201	N/A	N/A
P/U TRUCK CHEV 3/4T	82	1	Gasoline	1,631	15	20
P/U TRUCK FORD F150	82	1	Gasoline	25,470	17	22
P/U TRUCK FORD	80	1	Gasoline	91,786	17	22
BUS INT'L 72 PASS	88	N/A	N/A	189,299	N/A	N/A
BUS INT'L 72 PASS	84	N/A	N/A	121,265	N/A	N/A
BUS INT'L 72 PASS	82	N/A	N/A	217,488	N/A	N/A
BUS CHEV 60 PASS	87	N/A	N/A	11,962	N/A	N/A
SUV CHEV BLAZER	91	2	Gasoline	135,080	13	16
SUV CHEV BLAZER	84	2	Gasoline	86,071	13	16
S/W CHEV	94	1	Gasoline	157,598	21	27
VAN CHEV PASS	95	2	Gasoline	197,944	16	20

DEPARTMENT OF PUBLIC SAFETY

VEHICLE DESCRIPTION	MODEL YEAR	GROSS VEHICLE WEIGHT RATING	VEHICLE FUEL CONFIGURATION	ACCUMULATED MILEAGE	CITY MPG	HWY MPG
SUV CHEV BLAZER	86	2	Gasoline	37,913	13	16
SUV CHEV BLAZER	84	2	Gasoline	57,383	13	16
VAN FORD CARGO	87	1	Gasoline	39,085	15	20
VAN FORD CARGO	87	1	Gasoline	14,021	15	20
P/U TRUCK FORD	95	2	Gasoline	181,078	11	16
P/U TRUCK FORD	95	2	Gasoline	185,745	11	16
TRUCK TRAC PETERBILT	82	N/A	N/A	N/A	N/A	N/A
TRUCK TRAC PETERBILT	83	N/A	N/A	284,901	N/A	N/A
P/U CHEV UTILITY	90	1	Gasoline	70,773	15	20
TRUCK KAISER STAKE BODY	66	N/A	Gasoline	10,376	N/A	N/A
MSTR AM GEN	66	N/A	Gasoline	10,094	N/A	N/A
TRUCK INT'L STAKE MODEL 1624	80	N/A	Gasoline	129,971	N/A	N/A
SUV FORD BRONCO 2DR	92	2	Gasoline	130,842	14	18
TRUCK INTL HARVESTER MODEL S-1600	80	5	Diesel	88,358	N/A	N/A
BUS INTL 72 PASS	78	N/A	N/A	95,801	N/A	N/A
P/U TRUCK CHEV	92	1	Gasoline	252,783	15	20
BUS FORD 15 PASS	00	3	Gasoline	167,969	N/A	N/A
BUS FORD 15 PASS	00	3	Gasoline	179,172	N/A	N/A
BUS FORD 15 PASS	75	3	Gasoline	98,076	N/A	N/A
TRUCK CHEV 1/2T	93	1	Gasoline	51,422	15	20
VAN CHEV 15 PASS	01	2	Gasoline	157,916	13	16
VAN FORD CARGO	81	1	Gasoline	78,913	15	20
VAN CHEV 10	94	1	Gasoline	62,126	15	20
P/U TRUCK FORD	80	1	Gasoline	91,786	15	20
VAN CHEV 15 PASSENGER	03	2	Gasoline	122,011	13	16
KENWORTH DUMP	69	7	Gasoline	8,536	N/A	N/A
STRICK MSTL PERMANENT	00	N/A	N/A	N/A	N/A	N/A
TRAILER HEIL CO	00	N/A	N/A	N/A	N/A	N/A
TRAILER HEIL CO	00	N/A	N/A	N/A	N/A	N/A
TRAILER TRAILING	88	N/A	N/A	N/A	N/A	N/A
TRAILER LVSTK CALICA	86	N/A	N/A	N/A	N/A	N/A
VAN SIENNA TOYOTA	05	1	Gasoline	6,732	18	24
TOYOTA CAMRY	07	1	Gasoline	2,483	24	34

DEPARTMENT OF PUBLIC SAFETY

VEHICLE DESCRIPTION	MODEL YEAR	GROSS VEHICLE WEIGHT RATING	VEHICLE FUEL CONFIGURATION	ACCUMULATED MILEAGE	CITY MPG	HWY MPG
FORD F-350 PICKUP	01	2	Gasoline	35,987	N/A	N/A
FORD F-350 PICKUP	03	2	Gasoline	21,269	N/A	N/A
FORD F-350 PICKUP	03	2	Gasoline	29,060	N/A	N/A
P/U FORD	92	1	Gasoline	N/A	17	22
TRUCK CHEV	93	1	Gasoline	87,802	15	20
VAN CHEV EXPRESS 15 PASS	98	2	Gasoline	41,198	16	22
SDN CHEV MALIBU	99	1	Gasoline	121,077	23	32
VAN CHEV EXPRESS	99	2	Gasoline	45,026	16	20
SDN FORD MERCURY 4DR	99	1	Gasoline	7,002	25	34
VAN CHEV 15 PASS	01	2	Gasoline	37,238	16	22
TOYOTA TACOMA	06	1	Gasoline	1,544	20	27
SUV FORD EXPEDITION	98	2	Gasoline	N/A	13	18
VAN TOYOTA SIENNA-7 PASS	04	1	Gasoline	N/A	19	27
FORD F-150 PKUP	98	1	Gasoline	N/A	17	22
HONDA ACCORD	01	1	Gasoline	N/A	23	30
FORD F-150 PKUP	02	1	Gasoline	N/A	17	22
MINI COOPER S	05	1	Gasoline	N/A	25	32
TOYOTA 4RUNNERMPVH	06	1	Gasoline	N/A	18	22
SDN TOYOTA COROLLA	98	1	Gasoline	N/A	30	38
SUV CHEV TAHOE	99	2	Gasoline	N/A	12	16
SUV CHEV BLAZER	98	2	Gasoline	113,242	13	16
P/U FORD RANGER	99	1	Gasoline	N/A	17	22
SUV CHEV BLAZER SILVER	92	2	Gasoline	N/A	13	16
SUV CHEV BLAZER	91	2	Gasoline	116,172	13	16
SUV CHEV BLAZER AUTUMNWOOD	96	2	Gasoline	87,000	13	16
SUV CHEV	96	2	Gasoline	99,943	13	16
INFINITI G35	03	1	Gasoline	N/A	19	26
SDN TOYOTA COROLLA	03	1	Gasoline	10,987	30	38
FORD TAURUS	05	1	Gasoline	4,983	19	25
TRUCK STAKE INTL 9182198	93	N/A	N/A	65,359	N/A	N/A
VAN CHEV	92	2	Gasoline	177,363	16	20
P/U TRUCK CHEV 1/2	93	1	Gasoline	25,304	15	20
VAN FORD	85	1	Gasoline	84,934	17	23

DEPARTMENT OF PUBLIC SAFETY

VEHICLE DESCRIPTION	MODEL YEAR	GROSS VEHICLE WEIGHT RATING	VEHICLE FUEL CONFIGURATION	ACCUMULATED MILEAGE	CITY MPG	HWY MPG
VAN FORD	85	1	Gasoline	94,337	17	23
SDN FORD CROWN VICTORIA	91	1	Gasoline	29,556	18	25
VAN FORD	90	1	Gasoline	13,821	15	20
SDN CHEV CELEBRITY 4DR	89	1	Gasoline	42,488	23	30
TRUCK GMC DUMP	06	N/A	N/A	91,144	N/A	N/A
TRUCK CHEV STAKE	93	N/A	N/A	21,980	15	20
VAN CHEV ASTRO WHITE	92	2	Gasoline	35,595	16	20
P/U FORD	00	1	Gasoline	19,317	15	20
SDN CHEV	86	1	Gasoline	44,948	18	26
S/W CHEV	86	1	Gasoline	41,503	23	30
VAN DODGE	87	2	Gasoline	88,248	19	26
VAN DODGE	87	2	Gasoline	83,037	19	26
P/U TRUCK FORD	88	1	Gasoline	51,160	15	20
VAN CHEV ASTRO WHITE	88	1	Gasoline	77,179	15	19
VAN CHEV	87	2	Gasoline	26,982	16	20
VAN GMC MODEL G39K	91	2	Gasoline	177,750	15	19
P/U CHEVTRUCK	80	1	Gasoline	N/A	15	20
TRUCK CHEV DUMP	69	N/A	N/A	50,049	N/A	N/A
S/W CHEV 4DR	88	1	Gasoline	39,737	23	30
TRUCK FORD STAKE	75	N/A	N/A	94,639	N/A	N/A
P/U DODGE	91	2	Gasoline	26,705	13	17
VAN CHEV 15 PASS	98	2	Gasoline	126,076	16	21
VAN CHEV 15 PASS	98	2	Gasoline	153,626	16	21
VAN CHEV 15 PASS	98	2	Gasoline	150,424	16	21
VAN GMC 15 PASS	00	2	Gasoline	80,354	N/A	N/A
CHEVY BUS 20 PASS	94	N/A	N/A	N/A	N/A	N/A
CHEVY BUS 20 PASS	94	N/A	N/A	25,865	N/A	N/A
VAN CHEV 15 PASS	02	2	Gasoline	102,635	16	21
VAN CHEV 15 PASS	98	2	Gasoline	129,146	16	21
VAN FORD 15 PASS	95	2	Gasoline	57,665	14	19
VAN FORD	90	1	Gasoline	11,061	15	20
CHEVY LUMINA	99	1	Gasoline	38,364	20	29
HUMMER H2	03	2	Gasoline	N/A	N/A	N/A

DEPARTMENT OF PUBLIC SAFETY

VEHICLE DESCRIPTION	MODEL YEAR	GROSS VEHICLE WEIGHT RATING	VEHICLE FUEL CONFIGURATION	ACCUMULATED MILEAGE	CITY MPG	HWY MPG
TOYOTA TACOMA PKUP TRUCK	98	1	Gasoline	N/A	20	27
FORD TAURUS 4DR SDN	05	1	Gasoline	N/A	19	25
FORD TAURUS 4DR SDN	05	1	Gasoline	N/A	19	25
FORD EXPLORER SUV 2WHEEL DR	05	1	Gasoline	N/A	N/A	N/A
BUICK LESABRE	01	1	Gasoline	N/A	19	30
P/U TOYOTA TACOMA	04	1	Gasoline	N/A	20	27
CHEVY SUBURBAN	96	1	Gasoline	N/A	12	16
SDN CHEV CELEBRITY 4DR	89	1	Gasoline	82,427	24	31
SDN CHEV CAPRICE 4DR	92	1	Gasoline	N/A	18	26
SDN CHEV CAPRICE 4DR	92	1	Gasoline	N/A	18	26
SDN CHEV CAPRICE 4DR	92	1	Gasoline	N/A	18	26
SDN CHEV CAPRICE 4DR	92	1	Gasoline	N/A	18	26
VAN DODGE FROM JUD 7/1/90	90	2	Gasoline	117,953	19	26
SDN CHEV 4DR FROM JUD 7/1/90	90	1	Gasoline	N/A	23	32
SDN CHEV 4DR FROM JUD 7/1/90	90	1	Gasoline	N/A	23	32
SDN CHEV 4DR FROM JUD 7/1/90	90	1	Gasoline	104,279	23	32
P/U TRUCK DODGE RAMCHARGER	91	1	Gasoline	N/A	N/A	N/A
VAN CHEV FROM JUD 7/1/90	83	2	Gasoline	166,989	16	20
S/W FORD TAURUS	92	1	Gasoline	N/A	19	25
SDN PONTIAC GRAND PRIX 4DR	94	1	Gasoline	76,277	19	28
P/U TRUCK CHEV 2500	88	1	Gasoline	N/A	20	26
SDN FORD CROWN VICTORIA 4DR	95	1	Gasoline	N/A	18	25
SDN FORD CROWN VICTORIA	97	1	Gasoline	N/A	18	25
VAN CARGO FORD	86	1	Gasoline	N/A	15	20
SDN FORD CROWN VICTORIA	99	1	Gasoline	N/A	18	25
SDN FORD CROWN VICTORIA	99	1	Gasoline	N/A	18	25
SDN FORD CROWN VICTORIA	99	1	Gasoline	N/A	18	25
SDN FORD CROWN VICTORIA	99	1	Gasoline	N/A	18	25
SDN CHEV CAPRICE 4DR	93	1	Gasoline	N/A	18	25
SDN DODGE DIPLOMAT FD	85	1	Gasoline	96,213	16	21
SUV CHEV TAHOE	99	2	Gasoline	N/A	12	16
VAN FORD AEROSTAR	93	1	Gasoline	126,733	15	20
VAN FORD F-150	83	1	Gasoline	N/A	17	22

DEPARTMENT OF PUBLIC SAFETY

VEHICLE DESCRIPTION	MODEL YEAR	GROSS VEHICLE WEIGHT RATING	VEHICLE FUEL CONFIGURATION	ACCUMULATED MILEAGE	CITY MPG	HWY MPG
SDN FORD CROWN VICTORIA 4DR	00	1	Gasoline	N/A	18	25
VAN CHEV 12 PASS	01	2	Gasoline	N/A	16	21
VAN CHEV 12 PASS	01	2	Gasoline	N/A	16	21
FORD 4DSD	01	1	Gasoline	N/A	19	25
BUS FORD	96	N/A	N/A	N/A	N/A	N/A
SDN FORD CROWN VICTORIA	02	1	Gasoline	N/A	17	25
SDN FORD CROWN VICTORIA	02	1	Gasoline	N/A	17	25
P/U TRUCK FORD RANGER	02	1	Gasoline	N/A	17	22
P/U P FORD RANGER	00	1	Gasoline	N/A	17	22
VAN CHEV	03	2	Gasoline	N/A	16	20
SDN FORD CROWN VIC 4 DR	03	1	Gasoline	N/A	18	25
FORD CROWN VICTORIA POLICE INTERCEPTOR	00	1	Gasoline	N/A	18	25
CHEV IMPALA POLICE INTERCEPTOR	01	1	Gasoline	N/A	20	30
SUV CHEVY TAHOE	93	2	Gasoline	N/A	12	16
FORD ECONOLINE CLUB VAN	05	1	Gasoline	N/A	15	20
FORD ECONOLINE CLUB VAN	05	1	Gasoline	N/A	15	20
FORD CROWN VICTORIA	05	1	Gasoline	N/A	18	25
FORD CROWN VICTORIA	05	1	Gasoline	N/A	18	25
FORD CROWN VICTORIA	05	1	Gasoline	N/A	18	25
DODGE VAN	98	2	Gasoline	N/A	19	26
DODGE VAN	00	2	Gasoline	N/A	19	26
DODGE VAN	00	2	Gasoline	N/A	19	26
CHEVY VAN	95	2	Gasoline	N/A	16	20
CHEVY IMPALA POLICE INTERCEPTOR	01	1	Gasoline	N/A	20	30
CHEVY IMPALA POLICE INTERCEPTOR	01	1	Gasoline	N/A	20	30
FORD POLICE INTERCEPTOR	06	1	Gasoline	N/A	20	30
FORD 4DSD	02	1	Gasoline	N/A	19	25
OLDS 4DSD	02	1	Gasoline	N/A	24	32
FORD 4DSD	07	1	Gasoline	N/A	19	25
CHEVY 4DSD	02	1	Gasoline	N/A	20	29
CHEVY 4DSD	02	1	Gasoline	N/A	20	29
FORD4DSD	99	1	Gasoline	N/A	19	25
FORD 4DSD	97	1	Gasoline	N/A	19	25

DEPARTMENT OF PUBLIC SAFETY

VEHICLE DESCRIPTION	MODEL YEAR	GROSS VEHICLE WEIGHT RATING	VEHICLE FUEL CONFIGURATION	ACCUMULATED MILEAGE	CITY MPG	HWY MPG
LINCOLN NAVIGATOR	03	2	Gasoline	N/A	12	17
FORD 4DSD	07	1	Gasoline	N/A	19	25
CHEVROLET SUBURBAN	99	1	Gasoline	N/A	12	16
SDN FORD CROWN VICTORIA	07	1	Gasoline	N/A	18	25
SDN FORD CROWN VICTORIA	07	1	Gasoline	N/A	18	25
SDN FORD CROWN VICTORIA	07	1	Gasoline	N/A	18	25
SDN FORD CROWN VICTORIA	07	1	Gasoline	N/A	18	25
SUV CHEV S10 BLAZER	92	2	Gasoline	68,734	13	16
P/U FORD RANGER	83	1	Gasoline	76,265	17	22
VAN CHEV ASTRO PASS	94	2	Gasoline	82,682	16	20
SDN CHEV IMPALA 4 DR	00	1	Gasoline	N/A	19	29
SDN CHEV IMPALA 4 DR	00	1	Gasoline	N/A	19	29
SDN CHEV CELEBRITY	89	1	Gasoline	N/A	23	30
SDN CHEV CORSICA	90	1	Gasoline	N/A	24	31
VAN CHEV ASTRO	88	2	Gasoline	77,481	18	20
BUS CHEV15 PASS	91	2	Gasoline	630,077	16	21
VAN FORD WINDSTAR	98	1	Gasoline	134,289	18	25
VAN FORD WINDSTAR	98	1	Gasoline	41,357	18	25
P/U CHEV	00	1	Gasoline	246,432	15	20
P/U CHEV	00	1	Gasoline	191,135	15	20
VAN DODGE 15 PASS	01	2	Gasoline	23,246	13	16
ECONOLINE FORD 15 PASS CLUB WAGON	05	2	Gasoline	71,194	15	19
BUS FORD CHAMPION 14 PASS	97	2	Gasoline	146,430	N/A	N/A
FORD TRUCK	06	1	Gasoline	3,385	21	26
MAZDA TRUCK	00	1	Gasoline	59,619	15	19
VAN FORD	07	1	Gasoline	2,069	15	20
VAN GMC RALLY W/C	92	N/A	N/A	17,704	N/A	N/A
VAN GMC RALLY W/C	92	N/A	N/A	14,258	N/A	N/A
VAN FORD CLBWGN	86	2	Gasoline	2,703	15	19
BUS FORD/WAYNE CHAPERONE 15 PASS	87	N/A	N/A	28,920	N/A	N/A
SUV CHEV 15 PASS	92	2	Gasoline	54,753	16	21
P/U TRUCK DODGE	72	2	Gasoline	54,502	13	17

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**Department of Public Safety
Electricity Usage FY 05-07 (kWh)**

<u>Program</u>	<u>FY07</u>	<u>FY06</u>	<u>FY05</u>
HCF	6,049,080	6,277,520	6,400,080
KCF	1,248,582	1,389,852	1,389,852
WCF	1,151,000	1,242,000	1,301,000
HCCC	1,141,883	1,165,907	1,157,596
MCCC	2,221,200	2,046,600	2,080,800
OSCC	6,740,880	6,735,800	6,735,800
KCCC	734,800	734,800	734,800
WCCC	1,798,911	1,752,989	1,816,400
Kauai Intake	18,163	22,201	22,201
Hawaii Intake	34,922	38,689	38,330
Maui Intake	24,203	26,173	26,150
Hawaii Paroling office	26,728	25,464	25,464
NED	60,600	60,600	60,600
Total	21,250,952	21,518,595	21,789,073

PROGRAMS TO MINIMIZE WASTE PREVENT POLLUTION
UNIVERSITY OF HAWAII - COMMUNITY COLLEGES

Campus	Program Title	Description of Program	Vendor (if applicable)	Duration of Program	Materials Recycled	Quantity Recycled (Per Yr)	Any Other Information
Kapiolani CC	Community Recycling Center Program	Designed to provide convenient recycling drop-off services to campus and neighboring community.	City & County of Honolulu in conjunction with Honolulu Disposal	Approximately 3 Years	Aluminum cans, glass, cardboard, newspapers, paper.	Undetermined	
	Apple Computer E-Cycling Program	Recycling program for computers, monitors, peripherals from all computer manufacturers	Apple Computers	1 month	Personal computers, monitors and peripherals	17 pallets (approximately 400 pieces)	Program supported and staffed by KCC staff in CELTT and Auxiliary Services
	Campus Recycling Program	A KCC student group manages several recycling collection points for aluminum cans; transports them to the recycling bins.	None	Approximately 3 years	Aluminum cans	Undetermined	
	Community Mulch Program	KCC is designated as one of the City & County of Honolulu's recycled green waste sites, where mulch is delivered to various campus sites and is available for campus and community pickup and use	City & County of Honolulu	Approximately 3 years	Green waste	Undetermined	
	Campuswide Recycling	Recycling bins (3) will be placed near the entry points to all major campus buildings.	None	To start in October 2007	Aluminum cans, office paper, bottles	Undetermined	Program will be supported by KCC Auxiliary Services Staff.
	Energy Management System	Integrate energy management systems for air conditioning	Web Control	Started in 2006	Energy Conservation	Undetermined	Administration

PROGRAMS TO MINIMIZE WASTE PREVENT POLLUTION
UNIVERSITY OF HAWAII - COMMUNITY COLLEGES

Campus	Program Title	Description of Program	Vendor (if applicable)	Duration of Program	Materials Recycled	Quantity Recycled (Per Yr)	Any Other Information
Kapiolani CC	Re-usable Coffee Mugs	To cut down on the use of foam cups, KCC will sell thermal mugs for use in purchasing discounted coffee. This is also to encourage the purchase of coffee in the cafeteria rather than have individuals use coffee pots in the offices to reduce power consumption	None	To start by December 2007	Sustainability; energy conservation	Undetermined	Sponsoring group is KCC Sustainability Committee
Kauai CC	Recycle cooking oil and grease	Vegetable oil and grease is cleaned out of the grease traps by the vendor, the cooking oil is recycled.	Kauai Grease Trap Maintenance	Approximately 17 years	Vegetable oil and grease	200 gallons	
	Collection of waste oil from vehicles	Kauai CC students bring their cars to the automotive shop to learn how to properly change and collect the vehicle oil. The collection is given to the vendor.	Speedie Lube	Approximately 30 years	Engine Oil	100 gallons from Auto. Technology; 25 gallons from Operations & Main.	
	White paper recycling program	Kauai CC faculty started a program recycling white paper. Collection bins are located throughout the campus facilities; the maintenance staff transports the paper to a collection dumpster where the vendor collects the paper to be recycled.	Garden Island Disposal	Approximately 6 years	White Paper	1,000 lbs.	

PROGRAMS TO MINIMIZE WASTE PREVENT POLLUTION
UNIVERSITY OF HAWAII - COMMUNITY COLLEGES

Campus	Program Title	Description of Program	Vendor (if applicable)	Duration of Program	Materials Recycled	Quantity Recycled (Per Yr)	Any Other Information
Leeward CC	Community Recycling Center Program	Designed to provide convenient recycling drop-off services to campus community.	City & County of Honolulu in conjunction with Honolulu Disposal	Exact date unknown	1)aluminum cans, glass 2)newspaper, corrugated cardboard, office paper	Undetermined	40-cubic yard roll off container custom designed for recycling is provided
	Community Mulch Program	Leeward CC is designated as one of the City & County of Honolulu's recycled green waste sites where mulch is available for campus & community pick-up and use.	City & County of Honolulu in conjunction with Hawaiian Earth Products	Program went into effect in April 2006 & continues.	Green Waste	Undetermined	
	Used Library & Reference Books	Waianae campus donates unwanted reference & library books to students, community members, and the homeless shelter rather than discarding		Program inception - Summer 2007	Library & reference books	Undetermined	
	Green Waste	Native Hawaiian/Shade House program recycles all fresh green waste from the campus cafeteria into compost.		On-going program	Green waste from cafeteria	Undetermined	
	Tree Pruning and Wood Chips	Tree and shrub pruning are converted to wood chips & recycled to use as mulch for the Native Hawaiian plant collection and the Halau Lei and Medicinal Garden	Akahi Services	On-going program	Tree & shrub pruning	Undetermined	
	Automotive Programs	Automotive program recycles metal, aluminum and oil parts/products/by-products through various recycling companies	Snitzer Steel, metals Lennox, aluminum Unitek, oil	On-going program	Metals, aluminum, oil	Undetermined	

PROGRAMS TO MINIMIZE WASTE PREVENT POLLUTION
UNIVERSITY OF HAWAII - COMMUNITY COLLEGES

Campus	Program Title	Description of Program	Vendor (if applicable)	Duration of Program	Materials Recycled	Quantity Recycled (Per Yr)	Any Other Information
Leeward CC	Cartridge Recycling Program	Leeward CC is in the preliminary stages of establishing a recycling program for used printer cartridges	Entrade Corporation	To be determined	Cartridges for printers, facsimilies, copiers, and multi-function machines		Program is currently being established - soon to be implemented.
	Computer Recycling	Statewide computer recycling effort involving UH and the K-12 schools to be coordinated at the UH-Manoa campus.	Apple Computers	Late Sept., early October 2006	Computers and monitors, all brands	Potentially hundreds of pounds	Program is supported by Apple Computer
Maui CC	Maui County Recycling Site	Maui CC has agreed to allow usage of space on campus for a community recycling site run by Maui County. This site allows MCC a convenient location for the campus to recycle bottles, plastics, and paper waste. This is also a HI-5 redemption center.	Maui County, who hires Maui Disposal to operate the recycling center.	Approximately 3 years	Newspaper, plastics, bottles, cardboard, HI-5 redemption center		
	Maui CC Campus Recycling Program	A Maui CC student club manages several recycling collection points on campus and transports recyclables from the collection points to the Maui County recycling/ redemption site	Hawaii Institute for Human Rights	Approximately 2 years	Plastic bottles and cans		
	Administrative Services shredded paper	Paper generated by the Administrative Services Unit at MCC is shredded and given to a local flower farmer who uses the shredded paper for their business.	Helani Farms Hana and Maui Floral Farms in Kula	Approximately 2 years	Shredded paper	250 garbage bags a year	

PROGRAMS TO MINIMIZE WASTE PREVENT POLLUTION
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Maui CC	Recycled glass chips	Maui CC purchases large quantities of recycled glass chips to use in planter beds located throughout the various parking lots.	Aloha Plastic Recycling Company	Approximately 6 years	Glass chips	50 tons of glass chips	
	Recycled Plastic Parking Curbs	Maui CC has constructed parking lot curbs that are molded with recycled plastic.	Aloha Plastic Recycling Company	Approximately 8 Years	Recycled Plastics	100 Parking Lot Curbs	
	Telephone Books	When the new telephone books are issued, a staff member organizes a collection site on campus to collect the old phone books as part of an annual phone book recycling contest.	Judy Moon	3 Years	Telephone Books	100-300	
Windward CC	Reusable Coffee Mugs	When people purchase a MCC plastic reusable coffee mug in the campus cafeteria, they receive a discount on their beverage each time they use it.	Paina / Logo designed on Campus	Started Spring 2006	Saves paper product use from landfill and saving for culinary dept. in purchases.	200 / year	
	Cans/Plastic Recycling	The janitors at the college began recycling cans and plastics.	Janitors	Approximately 6 Years	Cans and Plastics		
	Paper recycling	As part of a paper recycling effort campus wide, faculty and staff use notepads that have been converted from used paper.	Campus Wide	Approximately 26 years.	Paper		
	Green Waste recycling	WCC has designated a site on campus where green waste is collected and used by the grounds crew as mulch.	Groundskeeper	Approximately 26 years.	Green waste, i.e., grass leaves, plant trimmings, tree branches and prunings.		

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Campus	Program Title	Description of Program	Vendor (if applicable)	Duration of Program	Materials Recycled	Quantity Recycled (Per Yr)	Any Other Information
Windward CC	Telephone Books	The faculty and staff at the college turn in old telephone books in an effort to recycle the old books.		Approximately 6 years	Telephone Books		
Honolulu CC	AMT	Recycle used automobile oil	Commercial	Over 20 Years			
	AMT	Recycle use solvents	Commercial	Over 20 Years			
	AMT	Recycle coolants	Recycling Machine	Starting Program			
	AMT	Recycle training cars	metal recycle	Over 20 Years			
	AERO	Recycle engine oil	self cleaning by strainer	Over 10 Years			
	Various	Recycle metals	Commercial	Over 20 Years			
	Café	Recycle cooking oils and grease traps	Commercial	Over 20 Years			
	Auto Body Diesel	Grease trap	Commercial	Over 20 Years			
	Various	Aluminum cans, plastics, white paper, computer ink cartridges	Commercial	Over 10 Years			